AVAYA

BCM450 Rls 6.0

Media Bay Modules

Task Based Guide

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Table of Contents

Media Bay Modules 5

Overview 5

Required Information 5

Flow Chart 6

Supported Media Bay Modules 7
Media Bay Module Descriptions 7

Telephony Resources & Media Bay Modules 13
Main Unit MBM Locations 14
Expansion Unit MBM Locations 14
Configuring Media Bay Modules in Telephony Resources 15
Configuring the Fibre Expansion Module 20

Installing the Media Bay Modules 26
MBM's Requiring Further Dip Switch Configuration 28

Additional Information 30

Additional MBM Configuration 30
De-configuring Media Bay Modules 30
Disabling/Enabling MBM's 32

Media Bay Module Specific Settings 34
Trunk Media Bay Modules 36
DTM-PRI Modules 38
DASS2 Modules 41
DPNSS Modules 42
BRI Module 43
CTM/GATM (4 and 8 port) Module 46
Station Media Bay Modules Types 47
DSM 16/32(+) Modules 47
ASM Analog Station Module Configuration 48
Combination Modules 49

Media Bay Modules Wiring Charts 50
ASM8(+)/GASM/DSM(+) Media Bay Module Amphenol Wiring 50
ADID4/8 Media Bay Module Amphenol Wiring 51
GATM4/8 Media Bay Module Amphenol Wiring 52
G4/8x16 Media Bay Module Amphenol Wiring 53
4x16 Media Bay Module Wiring 53
BRI Ports 54
DTM Ports 55

Avaya Documentation Links 56

Media Bay Modules

Overview

Media Bay Modules (MBM's) provide station (extension) and trunk capability for the BCM450. Each MBM provides specific station/trunk capability to allow connection to a variety of trunk types (e.g. analog, ISDN) and stations (e.g. analog, digital)

Before you install a Media Bay Module, configuration will be required within the Telephony Resources area of Element Manager to define "where" the Media Bay Module should be located. This configuration determines which line numbers (trunks) or DNs (extensions) the equipment connected to the module will have access to, and what dip switch configuration each MBM will require.

The BCM450 main unit can support up to 4 MBM's, whilst the expansion unit can support up to 6 MBM's. Therefore, a maximum of 10 MBM's can be supported on the BCM450.

Further extension/line expansion can be achieved by using the Fibre Expansion Module to connect up to 6 legacy Norstar Expansion Modules. However, the BCM450 maximum capacity limits of 300 extensions and 130 trunks (with Capacity Expansion Card) still apply.

Note: If the station and or trunk requirements of the BCM450 are such that an expansion unit will be required, then the expansion unit will need to be enabled by a keycode.

Note: This guide is specific to BCM450 Media Bay Module installation and configuration. For information concerning BCM50 Media Bay Module installation and configuration, please refer to the ***BCM50 Hardware & Installation Guide*** and the ***BCM50 System Start Up Guide***.

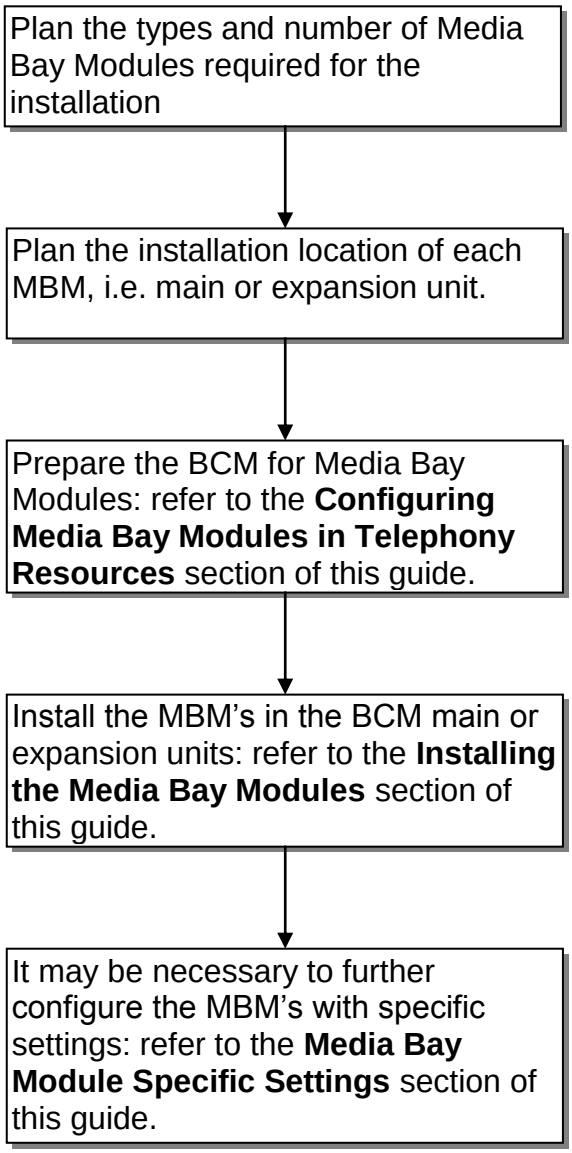
Required Information

Before installing the Media Bay Modules, you should consider the following to help define the requirements for each module:

- Determine the type and number of Media Bay Modules
- Decide whether each MBM should be in the main or expansion unit

Flow Chart

Use this flow chart to configure and install the Media Bay Modules:


Plan the types and number of Media Bay Modules required for the installation
Plan the installation location of each MBM, i.e. main or expansion unit.
Prepare the BCM for Media Bay Modules: refer to the **Configuring Media Bay Modules in Telephony Resources** section of this guide.
Install the MBM's in the BCM main or expansion units: refer to the **Installing the Media Bay Modules** section of this guide.
It may be necessary to further configure the MBM's with specific settings: refer to the **Media Bay Module Specific Settings** section of this guide.

Supported Media Bay Modules

The following Media Bay Modules are supported on the BCM450:

- Digital Trunk Modules:
  - DTM (digital trunk module)
  - BRI (ISDN Basic Rate trunk module)
- Analog Trunk Modules
  - CTM4/8 (4/8-port analog CLID trunk module)
  - GATM4/8 (global 4/8-port analog trunk module)
  - ADID4/8 (4/8-port analog direct inward dial)
- Digital Station Modules
  - DSM16(+)/32(+) (16/32-port digital station module)
- Analog Station Modules
  - ASM8/8+ (8-port analog station interface)
  - GASM8 (global 8-port analog station interface)
- Combination Modules
  - 4/8x16 Combo (4/8 analog trunks, 16 digital stations, combination of CTM4/8 & DSM16)
  - G4/8x16 Combo (global 4/8 analog trunks, 16 digital stations, combination of GATM4/8 & DSM16)
- Special Modules
  - FEM (Fibre Expansion Module, connects legacy Norstar expansion modules to the BCM)
  - R2MFC

Media Bay Module Descriptions

The following sections describe the hardware attributes and functionality of the Media Bay Modules.

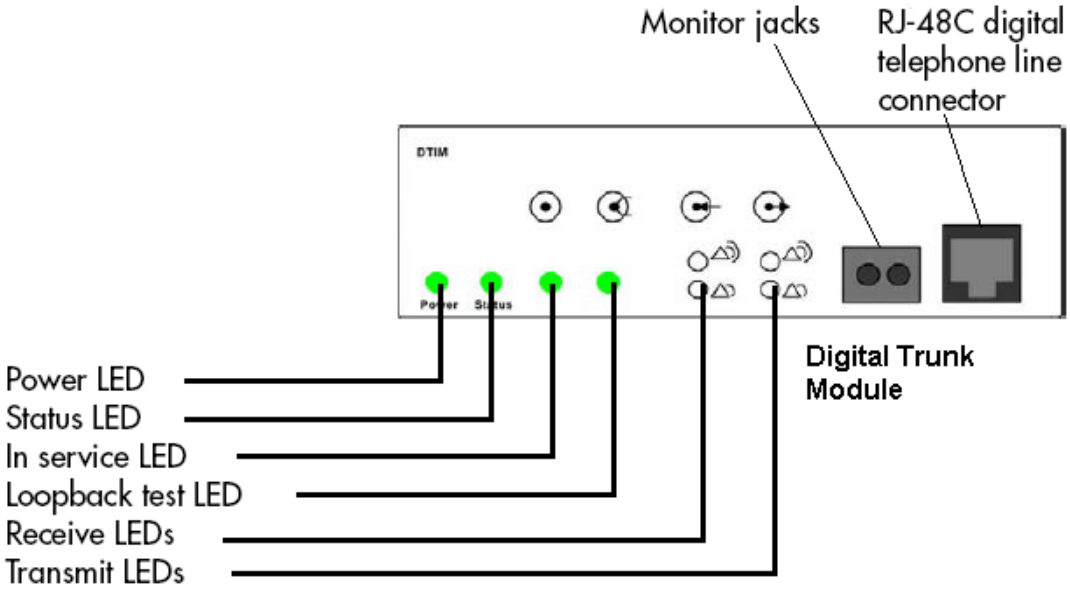
Digital Trunk Modules

When configured on a North American BCM system, the DTM connects a T1 or PRI circuit to the BCM system; T1 circuits provide 24 digital channels to the PSTN, while PRI circuits provide 23 digital channels to the PSTN.

When configured on an International BCM system, the DTM connects an ETSI ISDN (E1) or PRI (E1) circuit to the BCM system, providing a maximum of 30 digital channels to the PSTN.

The DTM module supports the following protocols:

- PRI
- DASS2
- DPNSS

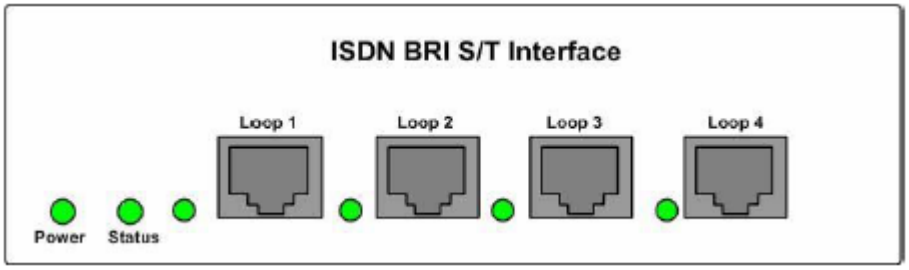


Basic Rate Interface Media Bay Module

The Basic Rate Interface Media Bay Module (BRIM) connects a maximum of four BRI ISDN loops to the BCM system. Each ISDN loop supports 2 channels.

The BRIM only recognizes the T-interface used in European networks. To use the BRIM with the U-interface, typical in North American networks, you require an external NT1 box to convert the U-interface to a T-interface.

Each BRI ISDN connected loop adds two telephone lines to the BCM system. Each BRIM can add a maximum of eight lines to the BCM system through the four RJ-48C jacks on the faceplate.

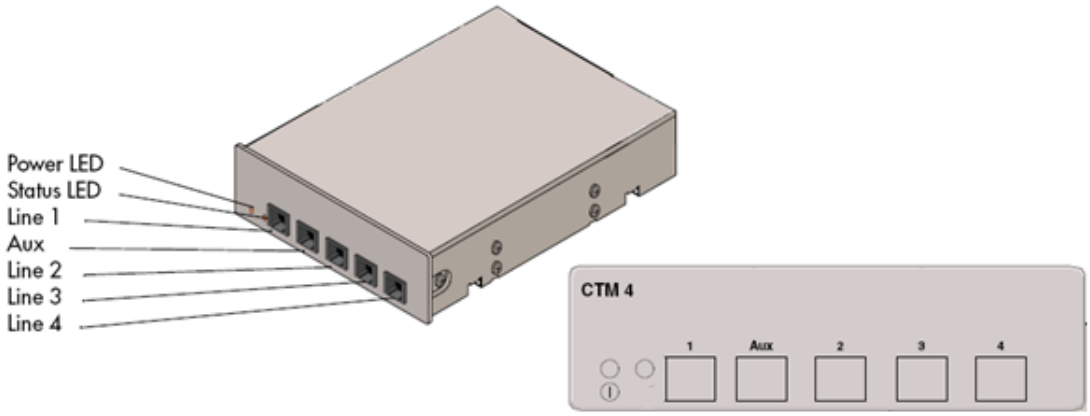


Caller ID Trunk Media Bay Module

There are two types of Caller ID trunk media bay modules (CTM):

1. **CTM4:**

   The CTM4 connects a maximum of four analog calling line ID (CLID) interfaces to the BCM system through four RJ-11 jacks on the front faceplate of the MBM. These jacks are labelled Line 1,Auxiliary, Line 2, Line 3, and Line 4. The auxiliary jack connects to Line 1.

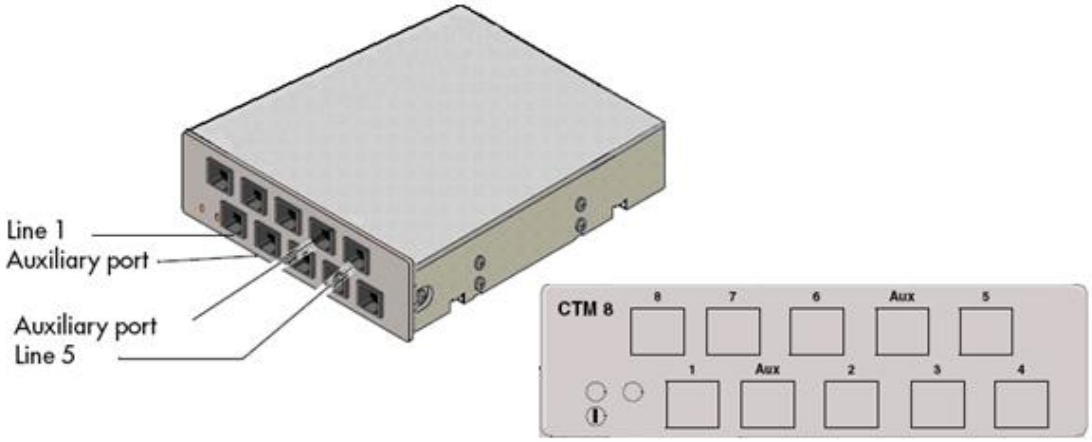


2. **CTM8:**

   The CTM8 provides eight analog CLID interfaces to the BCM system through eight RJ-11 jacks on the front faceplate of the BCM. Each jack also supports disconnect supervision. There are two auxiliary jacks on this MBM which connect to Line 1 and Line 5.

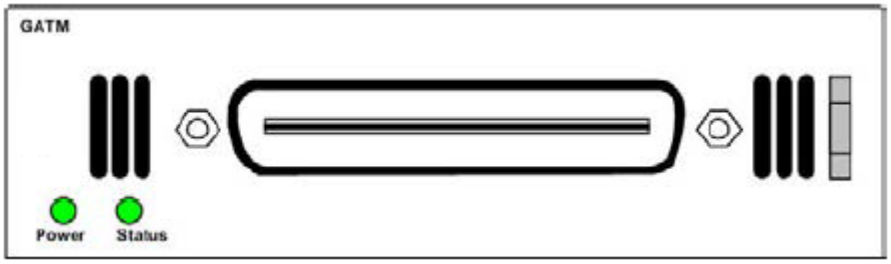
   The auxiliary ports will interface to a V.92 or V.90 modem, fax machine unit, or analog telephone. When the auxiliary device is active, the BCM system disables the associated line. If the line is active, the auxiliary port line is disabled.

   When an analog telephone is connected to the auxiliary port, it can be used as an emergency telephone because this line remains active during a power outage.



Global Analog Trunk Media Bay Module

The Global Analog Trunk Media Bay Module (GATM) provides an interface for four or eight analog public switched telephone network (PSTN) lines. The GATM supports bothpulse and tone dialing, as well as caller ID and disconnect supervision in selected markets throughout the world.
The GATM uses an RJ-21 connector as the trunk interface.



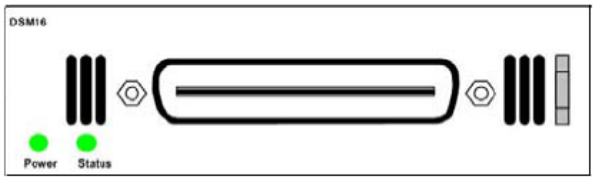
Digital Station Media Bay Module

The Digital Station Media Bay Modules (DSM) support digital telephones on the BCM system.

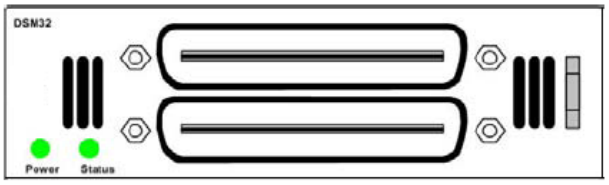
DSM16(+): supports 16 digital telephones through one RJ-21 connector.

DSM32(+): supports 32 digital telephones through two RJ-21 connectors.

DSM 16(+)



DSM 32(+)



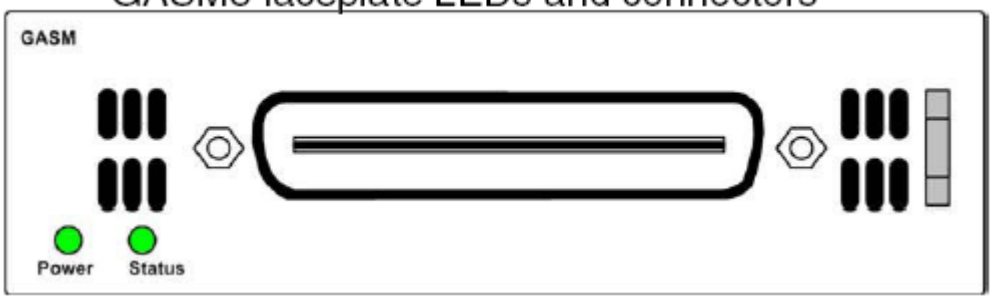
Analog Station Media Bay Modules

The Analog Station Media Bay Modules (ASM, ASM8, ASM8+, and GASM8) can connect to a maximum of eight analog telecommunication devices. These devices are standard analog telephones, cordless telephones, fax machines, answering machines, or modems.

In addition to ASM8 features, the ASM8+ and GASM8 offer the following features:

- Visual Message Waiting Indicator (VMWI) — LED indicates that a message is waiting.
- Disconnect supervision (Open Switch Interval [OSI] as per EIA/TIA 464). Indicates to the attached device, in an established communication, that the connected device should release the call
- Caller ID — provides the name, phone number, and other information about the caller to the end user telephone at the start of the call.
- Firmware downloading capability — allows the system to upgrade the ASM8+ and GASM8 firmware.
- Enhanced ringing capability — ASM8+ and GASM8 provide a ringing voltage of 2 REN/65 V rms per port.
- Calling line identification (CLID)
- The GASM8 is designated as an ONS (on-premise station) port.

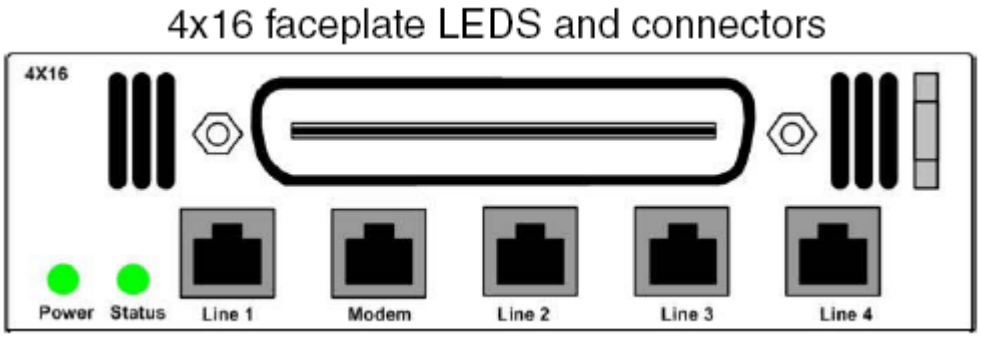
GASM8 faceplate LEDs and connectors



Note: Due to power constraints, a maximum of 2 GASM MBM's are supported in the main unit. Up to 4 GASM units can be installed in the expansion unit.

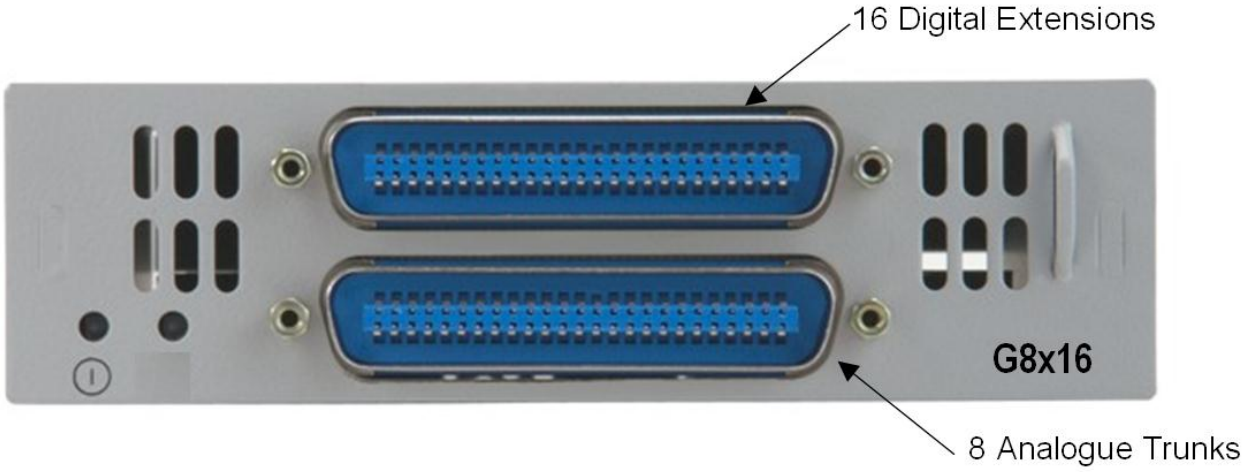
4x16 Media Bay Module

The 4x16 MBM provides both analog trunk and digital telephone connections. The 4x16 MBM provides connections for four analog lines and 16 digital telephones. Each of the four analog lines support caller ID and disconnect supervision. An auxiliary port next to the Line 1 port enables you to use an analog telephony device, such as a modem, fax, or telephone, to share the trunk.



Global 4x16 and Global 8x16 Module

This is a combination module that provides 16 Digital Extensions and either 4 or 8 analog lines (version dependant).

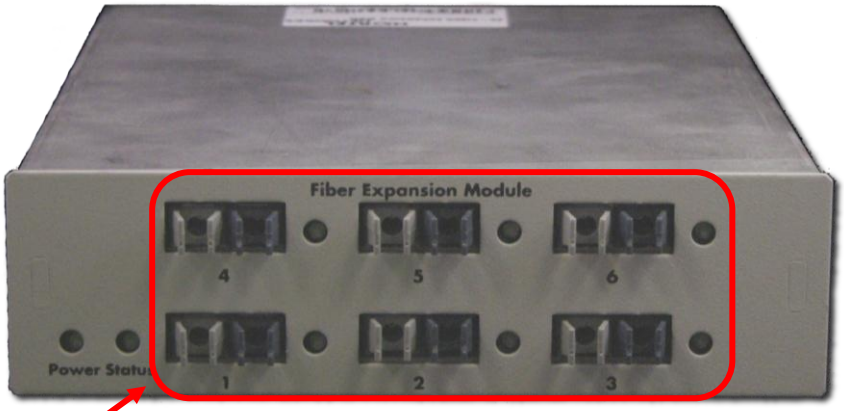


Fibre Expansion Module

The Fibre Expansion Module (FEM) allows legacy Norstar Expansion Modules (for connecting extensions and trunks) to be connected to the BCM450. This would be used in installations whereby a Norstar with existing Expansion Modules was being replaced by the BCM450. The existing Norstar Expansion Modules would be connected via fibre cables to the fibre ports on the FEM.

Note: The FEM can only be installed in the main unit, not in the expansion unit.

Note: Only one FEM per main unit is supported.



Fibre Ports – Connect to
Norstar Expansion Modules

Up to 6 Norstar Expansion Modules can be connected via fibre cables to the FEM. Supported Norstar Expansion Modules are:

- Global Line Module (Norstar Trunk Module in Element Manager)
- Extension Module (Norstar Station Module in Element Manager)
- Analog Extension Module (Norstar Analog Station Module in Element Manager)

Note: Norstar Central Control Unit connection to the FEM is not supported.

Note: "Daisy chaining" of Norstar Analog Extension Modules (AEM) is not supported on the BCM450, i.e. only one Norstar AEM can be connected to each FEM fibre port.

Telephony Resources & Media Bay Modules

Media Bay Modules are installed in the BCM450 main and expansion units. The BCM450 does not auto-detect the MBM type, and therefore configuration has to take place

BCM450 uses the Dynamic Device Configuration feature, whereby extension (station) and line numbers can be dynamically configured per MBM. Therefore, extension and line numbers are not defined by location allocation within Telephony Resources, as was the case with the BCM200 and BCM400 platforms. Default extension and line numbers exist, but these can be changed as required.

Telephony Resource allocation is determined differently depending on whether or not MBM's will be installed in the BCM450 main unit or the expansion unit (if utilising):

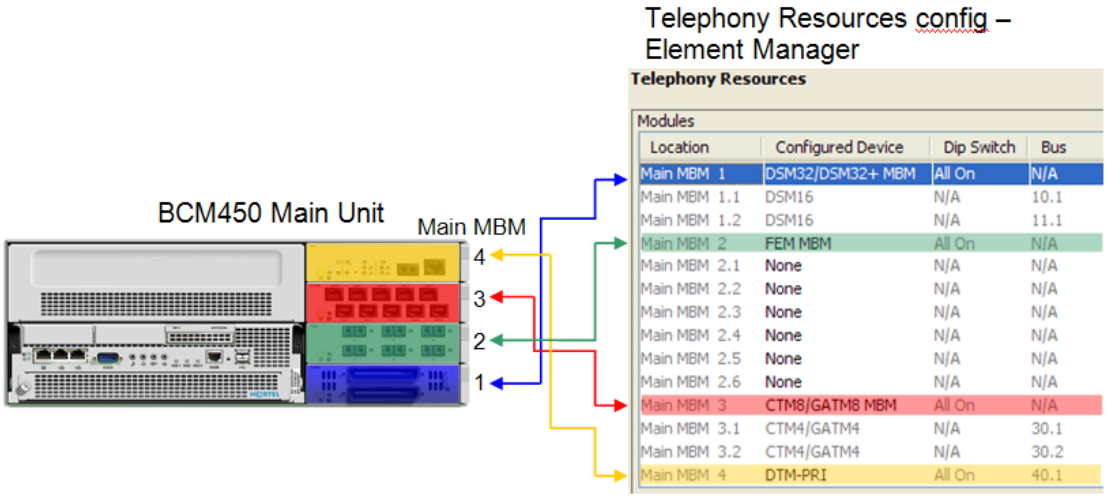
- Main Unit: There are 4 Media Bays available, termed MBM1, MBM2, MBM3, and MBM4. Physical location determines the Telephony Resources location.
- Expansion Unit: There are 6 Media Bays available. Dipswitch configuration determines the Telephony Resources location. MBM's can be installed in any bay in the expansion unit.

Rules concerning MBM locations are greatly simplified resulting in greater flexibility. Listed below are rules governing the MBM location:

- If you are installing a DSM32(+) insert it into MBM slot 1, as this is pre-configured in Telephony Resources.
- FEM modules can only be installed into the main unit.

Main Unit MBM Locations

As previously described, the physical location of the MBM's determines the Telephony Resource location. There are 4 bays available, which relate to Telephony Resources locations MBM1 – 4 as below:

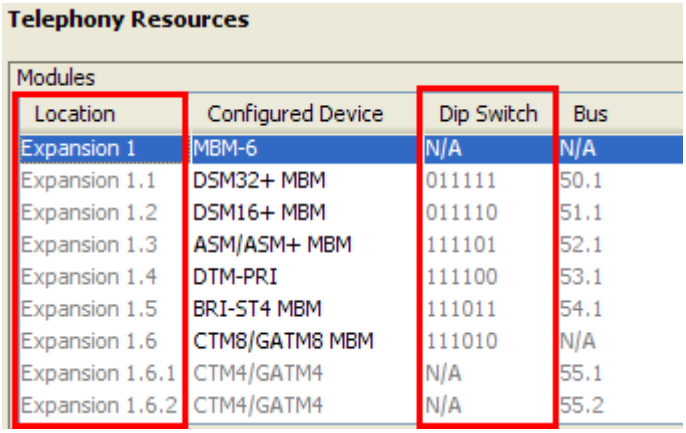


Main MBM 1 is pre-configured to be a DSM32(+). This is the only pre-configured module.

Expansion Unit MBM Locations

If more than 4 Media Bay Modules are required to fulfill capacity requirements, then an expansion unit will be needed. Dipswitches determine which Telephony Resources location each MBM will use. BCM450 displays what the dipswitch settings should be for each MBM.

An example installation with 6 MBM's in the expansion unit is shown below.



The Media Bay Modules can be installed in any bay in the expansion unit.

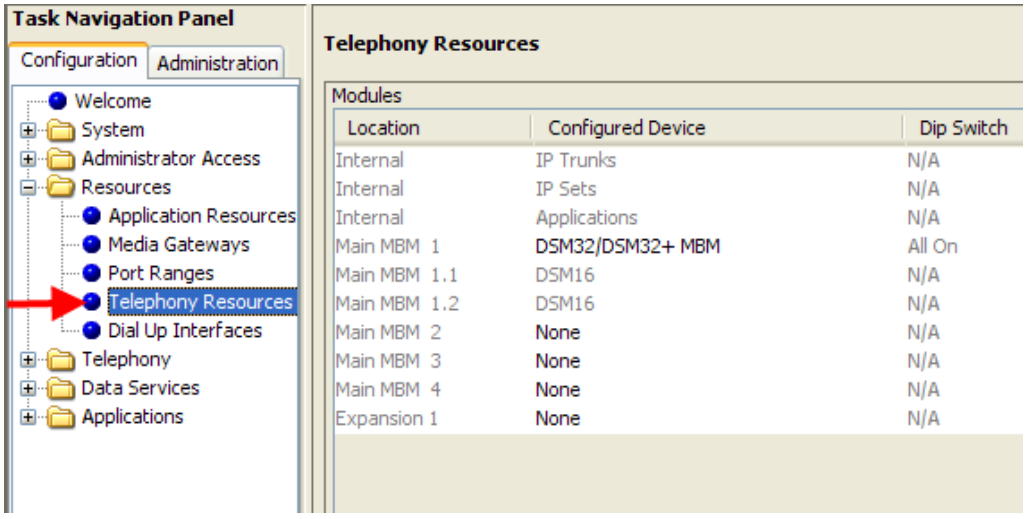
Note: A keycode is required to enable the expansion unit.

Configuring Media Bay Modules in Telephony Resources

When you have obtained the Media Bay Modules and determined their locations in either the main or expansion units, the Telephony Resource configuration can be performed.

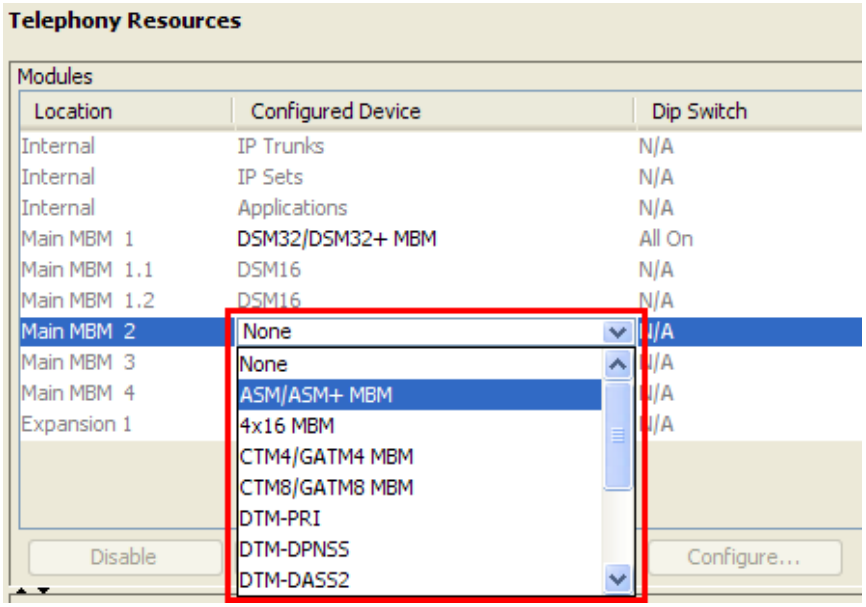
1. Launch Element Manager and connect to your BCM450.

2. In the **Configuration** tab, open the **Resources** folder and click on **Telephony Resources**.

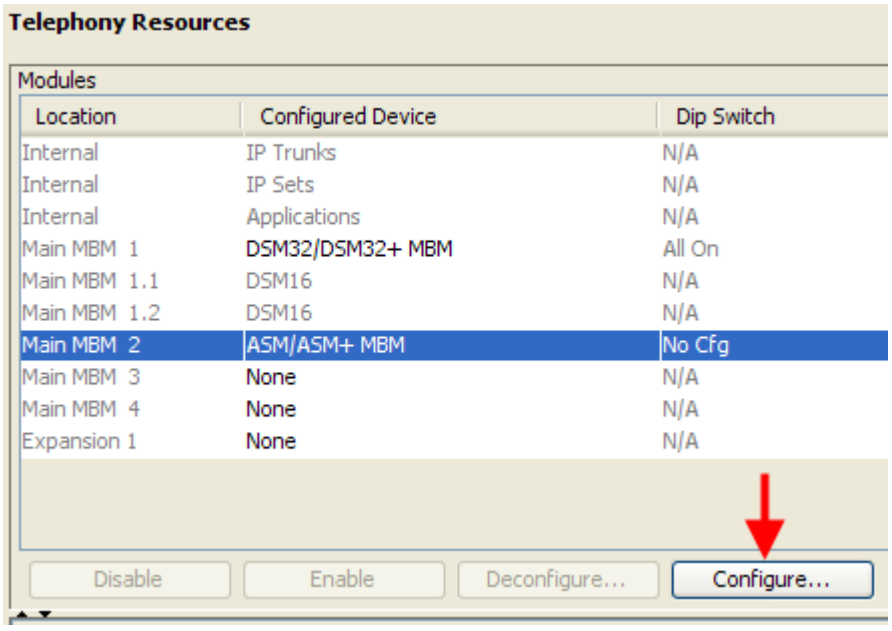


3. The Main MBM 1 location is configured as a DSM32/DSM32+ MBM, as most installations will use this MBM.

4. Set the other MBM's to the correct type by double-clicking in the **Configured Device** field, and selecting the MBM type to be installed in the associated bay.

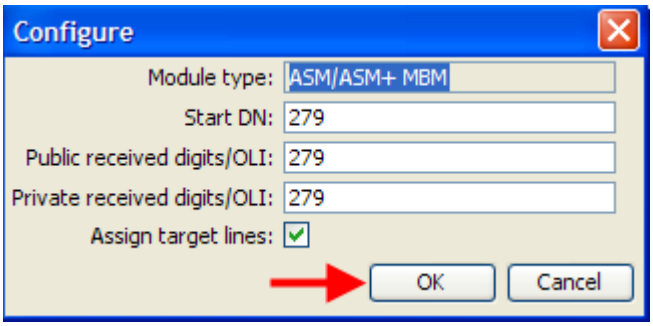


5. When the required MBM type has been selected, the **Configure** button becomes active. Click on the **Configure** button to configure extension or line allocations to the MBM.

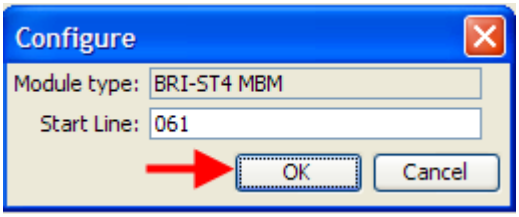


6. The **Configure** dialog box will appear. You can accept the defaults or configure new extension (station) or line (trunk) information:
   - Station Module: Accept the defaults or configure the **Start DN**, **Public received digits/OLI**, and **Private received digits/OLI**. The received digits and OLI information will be assigned sequentially to the number of stations available on that module. There is also the

option of assigning Target Lines to the extensions on the MBM. Tick the **Assign target lines** check box to do this.



- Trunk Module: Accept the default **Start Line** number or enter a new starting line number for the trunks presented on the MBM.



Note: There must be enough DN's available in the system to populate the entire MBM being configured, otherwise you will not be able to configure the MBM and it will not function.

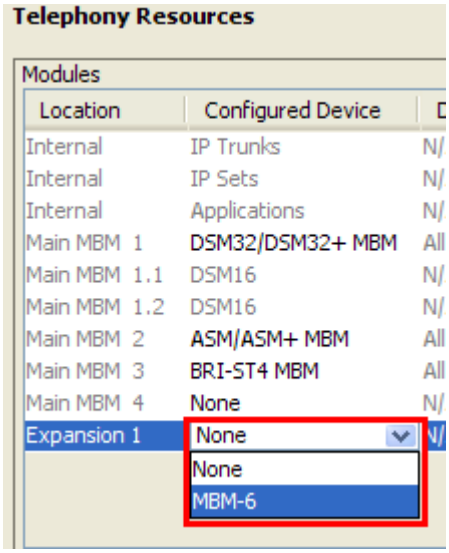
Note: There must be enough consecutive line numbers available in the system to populate the entire MBM being configured, otherwise you will not be able to configure the MBM and it will not function.

Note: Received Digits and OLI settings can be configured in other areas of Element Manager, such as Telephony, Active Sets. However, configuring these settings in Telephony Resources is a convenient and time saving method, if feasible on your installation.

7. Click on **OK** when you have entered the required settings.

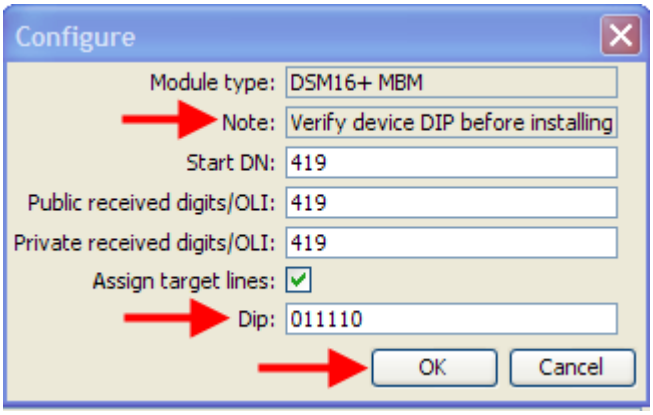
8. If you are not using the BCM expansion unit in the installation, skip to step 12 in this section.

9. If the BCM expansion unit is being used in this installation, double-click in the **Configured Device** field for **Expansion 1** and select **MBM-6**.

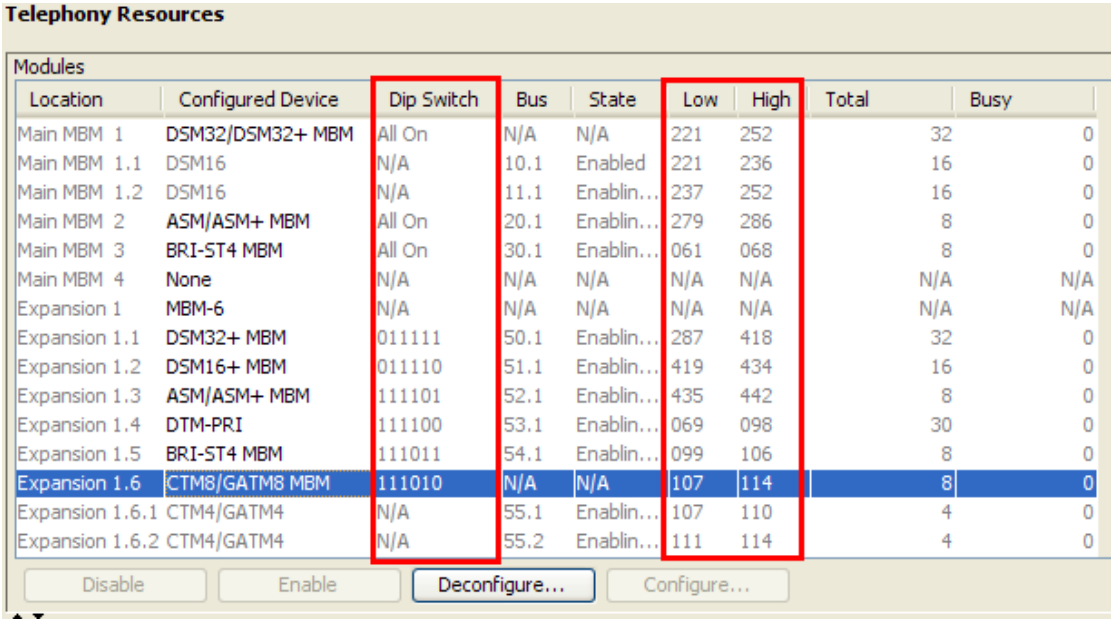


10. Configure each MBM as required, as described in steps 4 – 7 in this section.

11. When configuring each MBM on the expansion unit, 2 extra fields are displayed (**Note** and **Dip** fields) referring to dip switch configuration. Whilst it is possible to alter the suggested dip switch configuration, it is recommended to accept the suggested values. The dip switch settings on the MBM must match the settings in this field.



12. You will notice that the required **Dip Switch** configuration for each MBM is defined in the **Dip Switch** column. Note this down for when dip switch configuration on the MBM is required later in the procedure.

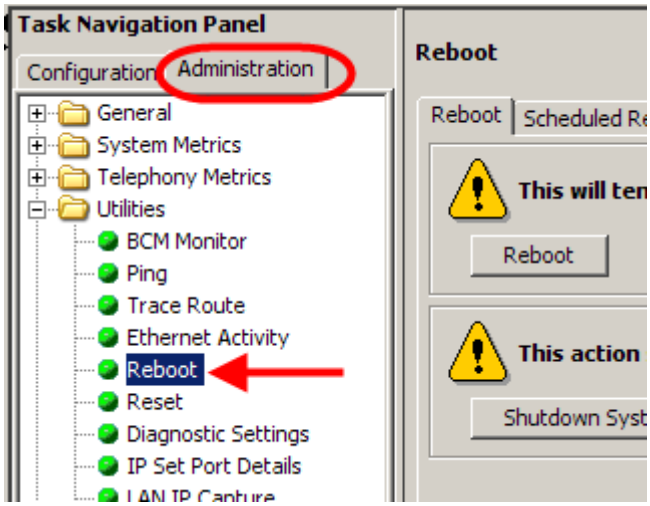

Telephony Resources
Modules
Location | Configured Device | Dip Switch | Bus | State | Low | High | Total | Busy
Main MBM 1 | DSM32/DSM32+ MBM | All On | N/A | N/A | 221 | 252 | 32 | 0
Main MBM 1.1 | DSM16 | N/A | 10.1 | Enabled | 221 | 236 | 16 | 0
Main MBM 1.2 | DSM16 | N/A | 11.1 | Enablin... | 237 | 252 | 16 | 0
Main MBM 2 | ASM/ASM+ MBM | All On | 20.1 | Enablin... | 279 | 286 | 8 | 0
Main MBM 3 | BRI-ST4 MBM | All On | 30.1 | Enablin... | 061 | 068 | 8 | 0
Main MBM 4 | None | N/A | N/A | N/A | N/A | N/A | N/A | N/A
Expansion 1 | MBM-6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A
Expansion 1.1 | DSM32+ MBM | 011111 | 50.1 | Enablin... | 287 | 418 | 32 | 0
Expansion 1.2 | DSM16+ MBM | 011110 | 51.1 | Enablin... | 419 | 434 | 16 | 0
Expansion 1.3 | ASM/ASM+ MBM | 111101 | 52.1 | Enablin... | 435 | 442 | 8 | 0
Expansion 1.4 | DTM-PRI | 111100 | 53.1 | Enablin... | 069 | 098 | 30 | 0
Expansion 1.5 | BRI-ST4 MBM | 111011 | 54.1 | Enablin... | 099 | 106 | 8 | 0
Expansion 1.6 | CTM8/GATM8 MBM | 111010 | N/A | N/A | 107 | 114 | 8 | 0
Expansion 1.6.1 | CTM4/GATM4 | N/A | 55.1 | Enablin... | 107 | 110 | 4 | 0
Expansion 1.6.2 | CTM4/GATM4 | N/A | 55.2 | Enablin... | 111 | 114 | 4 | 0
Disable
Enable
Deconfigure...
Configure...

13. Also, the full ranges of extensions or lines for each MBM are listed in the **Low** and **High** columns. This may also be worth noting for reference purposes.

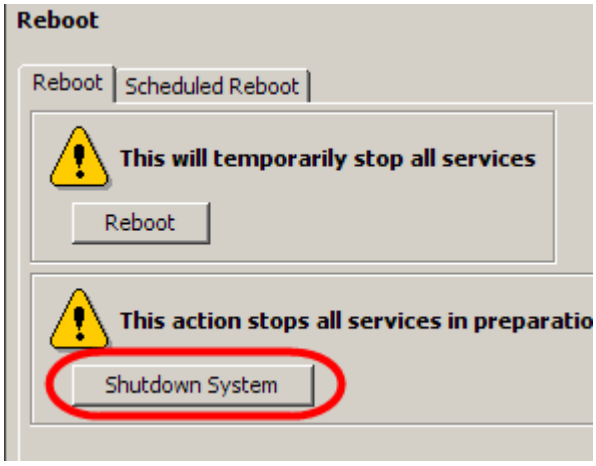
14. The BCM should now be shut down to allow MBM dip switch configuration and installation.

Note: Do not install MBM's whilst the BCM is powered up.

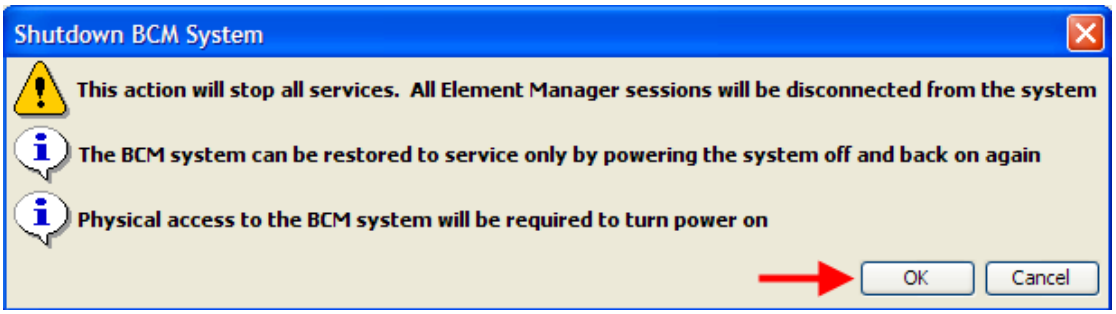
15. Switch to the Administration tab, and navigate to **Utilities**, **Reboot**.



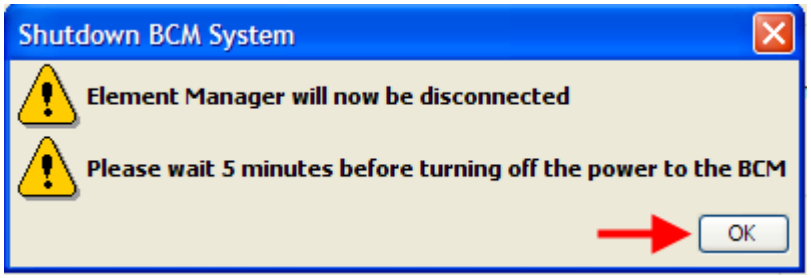
16. Click on the **Shutdown System** button.



17. Click **OK** to shutdown the BCM.


Shutdown BCM System
This action will stop all services. All Element Manager sessions will be disconnected from the system
The BCM system can be restored to service only by powering the system off and back on again
Physical access to the BCM system will be required to turn power on
OK
Cancel

18. An advisory dialog box will display. Click **OK** to close the box.


Shutdown BCM System
Element Manager will now be disconnected
Please wait 5 minutes before turning off the power to the BCM
OK

19. When the BCM is fully powered down, i.e. the status and power LED's are unlit, it will be safe to install the MBM's. Dip switches should be configured before installing the MBM's (refer to the notes made earlier in step 12). Refer to the **Installing the Media Bay Modules** section of this guide.

Configuring the Fibre Expansion Module

The Fibre Expansion Module (FEM) has a slightly different – but not inconsistent – configuration method. Up to 6 Norstar Expansion Modules can be connected to the BCM450 via the FEM. Each Norstar Expansion Module will need to be configured individually in Telephony Resources.

Note: The FEM may only be installed in the BCM main unit. It is not supported in the expansion unit.

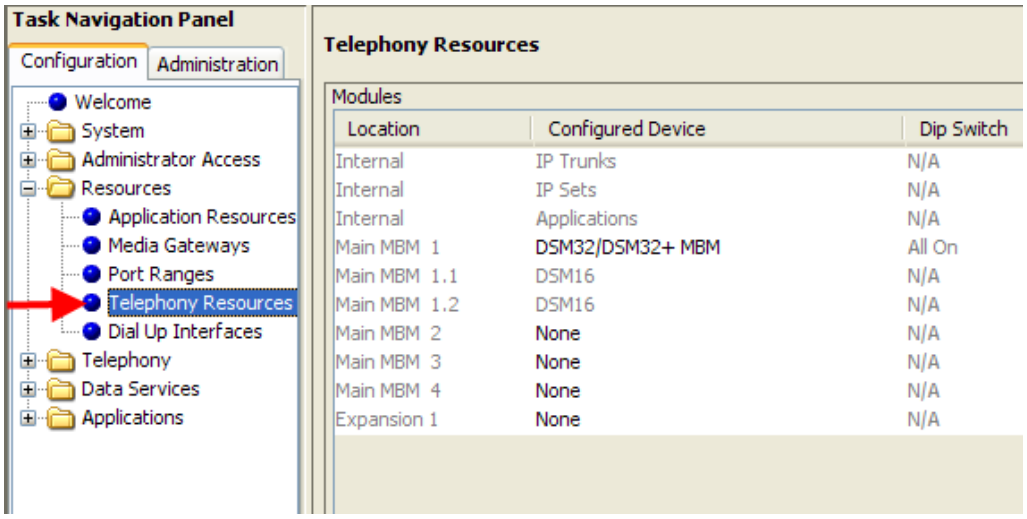
The available Configured Device types for the Norstar Expansion Modules within Telephony Resources are as follows:

- Norstar TM (Trunk Module) – Norstar Global Line Module containing Analog or BRI cards
- Norstar SM (Station Module) – Norstar Extension Module, supporting up to 16 digital extensions
- Norstar ASM (Analog Station Module) – Analog Extension Module, supporting up to 8 Analog extensions (BCM450 does not support daisy-chaining of Norstar Analog Extension Modules).

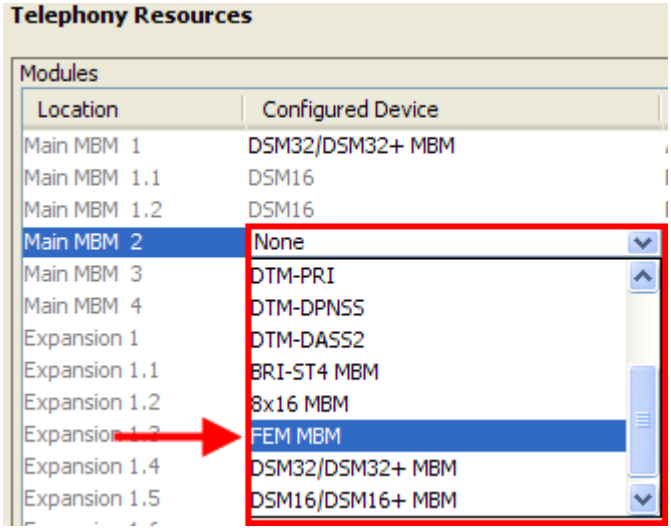
Use the following procedure to configure the FEM.

1. Launch Element Manager and connect to your BCM450.

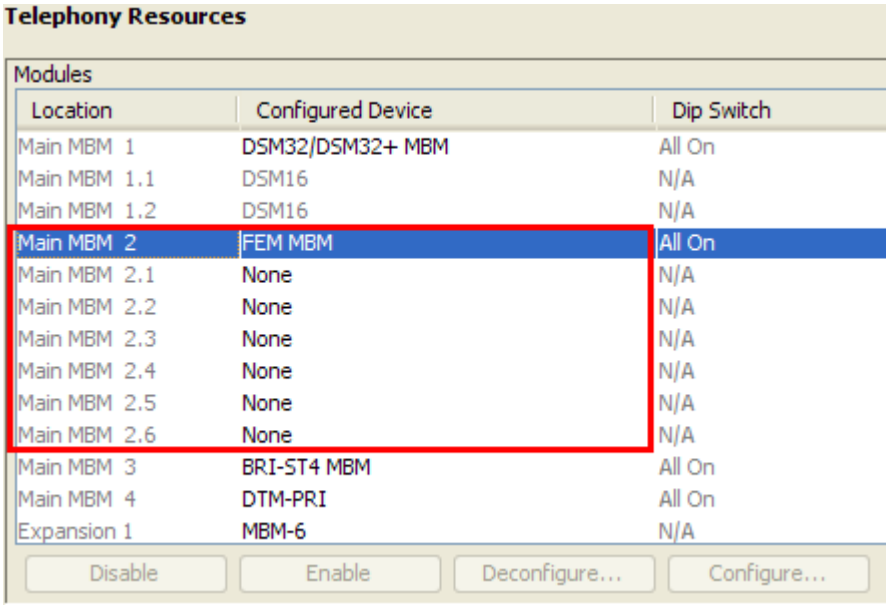
2. In the **Configuration** tab, open the **Resources** folder and click on **Telephony Resources**.



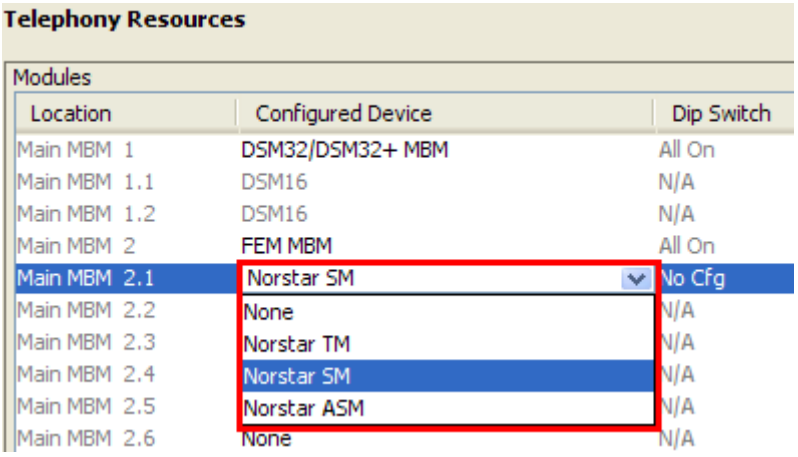
3. Double-click in the **Configured Devices** field for the Main MBM slot corresponding to the location of the FEM. Select **FEM MBM** from the drop-down list.



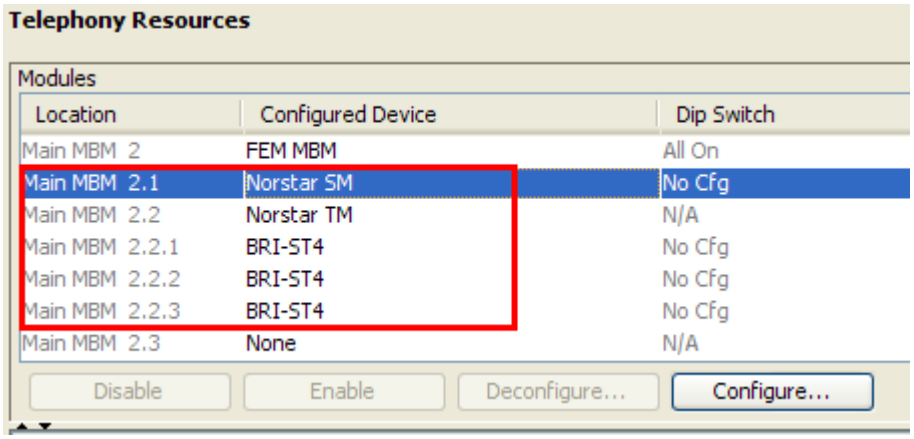
4. A further 6 sub-locations will appear, corresponding to the 6 possible Norstar Expansion Modules that could be connected via the FEM (Main MBM 2.1–2.6 in the example below).



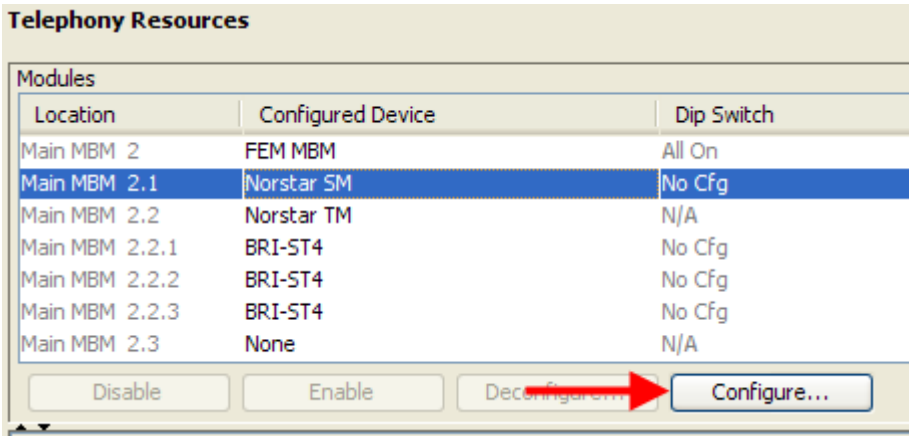
5. Double-click in the **Configured Devices** field for each connected Norstar Expansion Module, and select either Norstar TM, Norstar SM, or Norstar ASM (refer to the beginning of this section for descriptions).



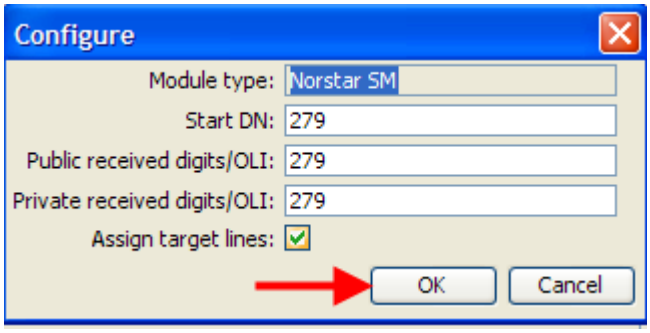
6. If selecting Norstar TM, the Location column is further expanded to allow the 3 possible cards in the Norstar Global Line Module to be configured (Main MBM 2.2.1-2.2.3 in the example below). Double-click in the corresponding **Configured Device** field and select the appropriate line card.



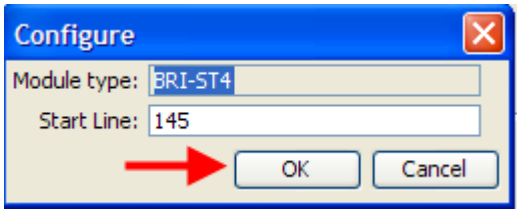
7. When the required Norstar Expansion Module type (and line card type for Norstar TM) has been selected, the **Configure** button becomes active. Click on the **Configure** button to configure extension or line allocations to the Norstar Expansion Module.



8. The **Configure** dialog box will appear. You can accept the defaults or configure new extension (station) or line (trunk) information:
   - Norstar Station Module: Accept the defaults or configure the **Start DN**, **Public received digits/OLI**, and **Private received digits/OLI**. The received digits and OLI information will be assigned sequentially to the number of stations available on that module. There is also the option of assigning Target Lines to the extensions on the MBM. Tick the **Assign target lines** check box to do this.



- Norstar Trunk Module: Accept the default **Start Line** number or enter a new starting line number for the trunks presented on the MBM.



Note: There must be enough DN's available in the system to populate the entire Norstar Expansion Module being configured, otherwise you will not be able to configure the module and it will not function.

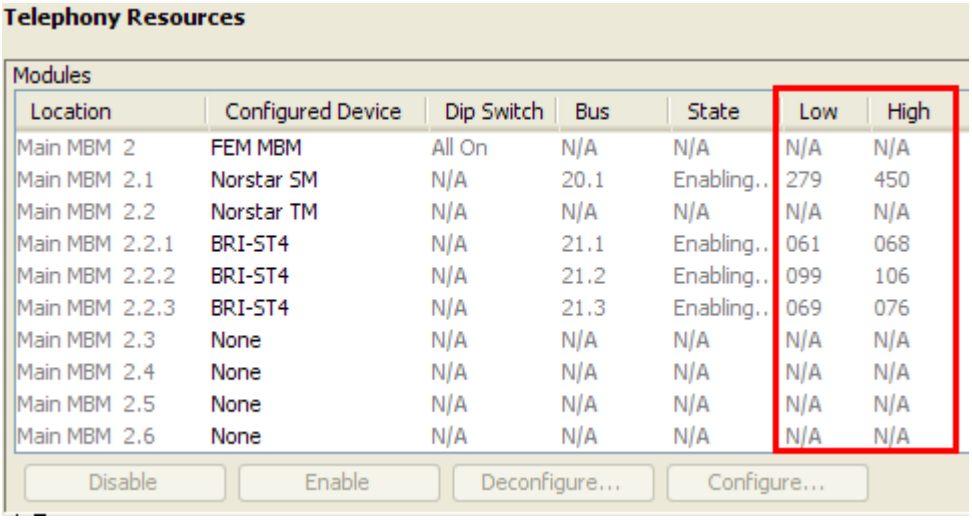
Note: There must be enough consecutive line numbers available in the system to populate the entire Norstar Expansion Module being configured, otherwise you will not be able to configure the module and it will not function.

Note: Received Digits and OLI settings can be configured in other areas of Element Manager, such as Telephony, Active Sets. However, configuring these settings in Telephony Resources is a convenient and time saving method, if feasible on your installation.

9. Click on **OK** when you have entered the required settings.

10. The FEM dip switches should be set to all **On**.

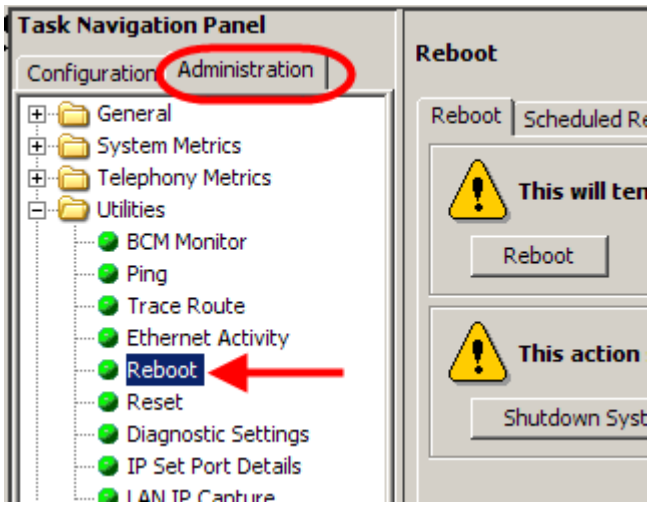
11. The full ranges of extensions or lines associated with each Norstar Extension Module are listed in the **Low** and **High** columns. This may be useful to note for reference purposes.


Telephony Resources
Modules
Location | Configured Device | Dip Switch | Bus | State | Low | High
Main MBM 2 | FEM MBM | All On | N/A | N/A | N/A | N/A
Main MBM 2.1 | Norstar SM | N/A | 20.1 | Enabling.. | 279 | 450
Main MBM 2.2 | Norstar TM | N/A | N/A | N/A | N/A | N/A
Main MBM 2.2.1 | BRI-ST4 | N/A | 21.1 | Enabling.. | 061 | 068
Main MBM 2.2.2 | BRI-ST4 | N/A | 21.2 | Enabling.. | 099 | 106
Main MBM 2.2.3 | BRI-ST4 | N/A | 21.3 | Enabling.. | 069 | 076
Main MBM 2.3 | None | N/A | N/A | N/A | N/A | N/A
Main MBM 2.4 | None | N/A | N/A | N/A | N/A | N/A
Main MBM 2.5 | None | N/A | N/A | N/A | N/A | N/A
Main MBM 2.6 | None | N/A | N/A | N/A | N/A | N/A
Disable
Enable
Deconfigure...
Configure...

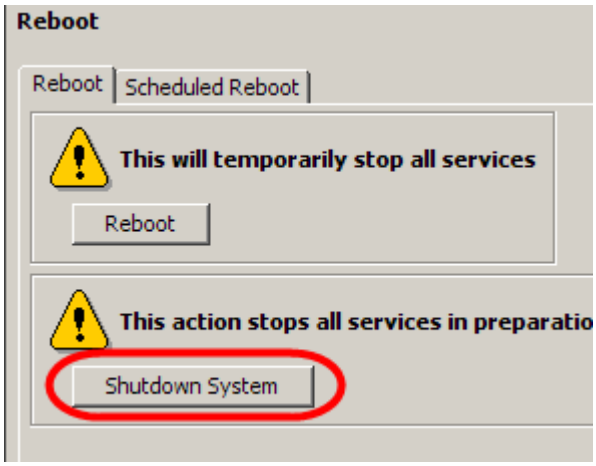
12. The BCM should now be shut down to allow FEM MBM installation. All the FEM dip switches should be set to **On**.

Note: Do not install MBM's whilst the BCM is powered up.

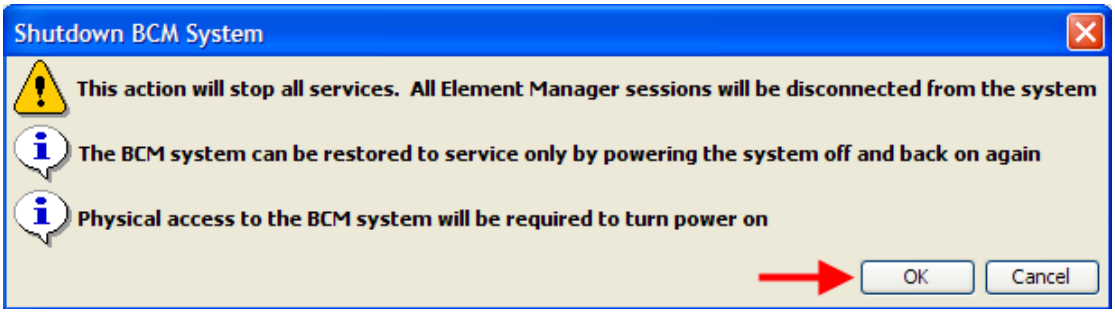
13. Switch to the Administration tab, and navigate to **Utilities**, **Reboot**.



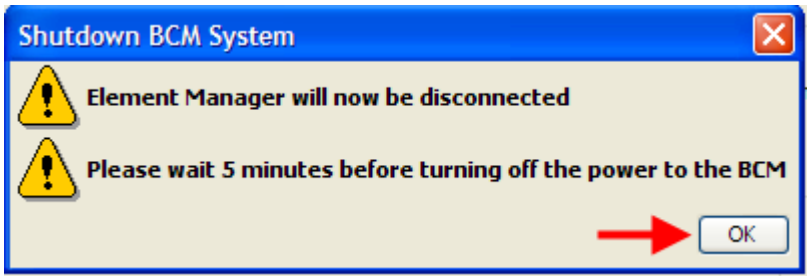
14. Click on the **Shutdown System** button.



15. Click **OK** to shutdown the BCM.


Shutdown BCM System
This action will stop all services. All Element Manager sessions will be disconnected from the system
The BCM system can be restored to service only by powering the system off and back on again
Physical access to the BCM system will be required to turn power on
OK
Cancel

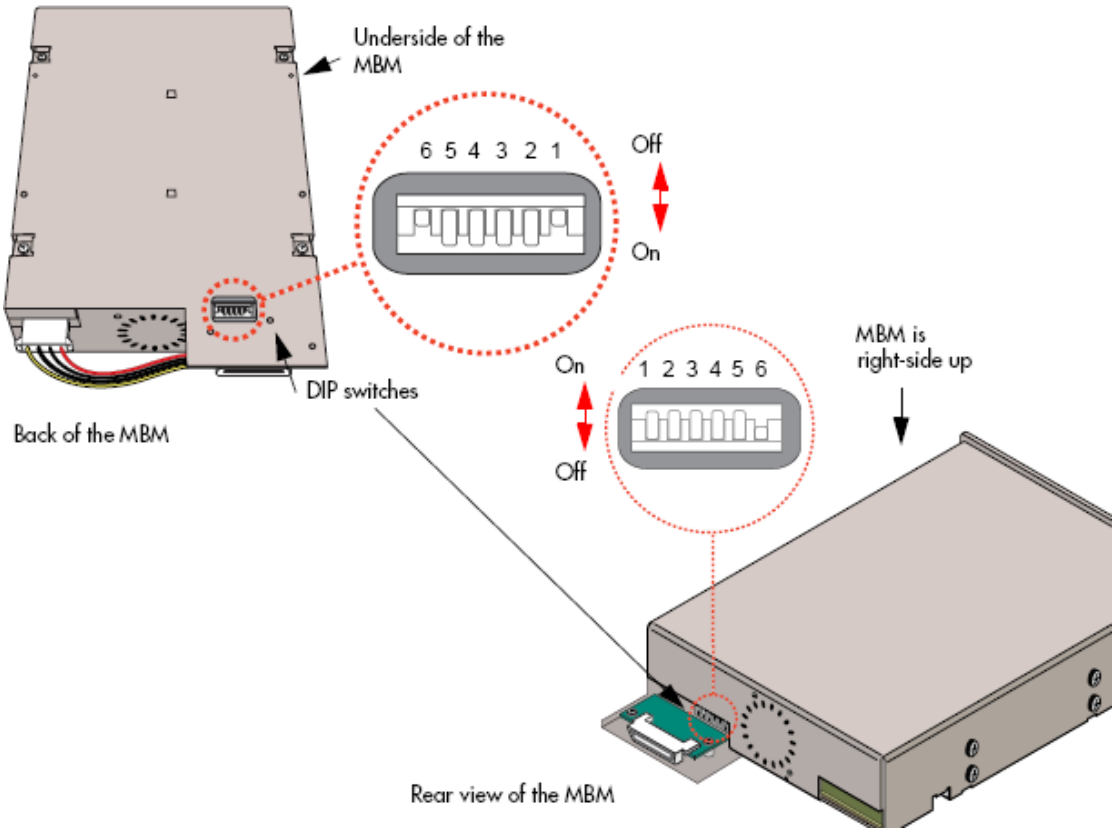
16. An advisory dialog box will display. Click **OK** to close the box.


Shutdown BCM System
Element Manager will now be disconnected
Please wait 5 minutes before turning off the power to the BCM
OK

17. When the BCM is fully powered down, i.e. the status and power LED's are unlit, it will be safe to install the FEM MBM's. The FEM dip switches should be all be set to **On** before installing in the BCM. Refer to the **Installing the Media Bay Modules** section of this guide.

Installing the Media Bay Modules

Before you install the MBMs into the BCM system, you must set the DIP switches. The dipswitches can be found at the rear of the module itself and can be set to ON and OFF following certain rules.



Most MBM's only have the dip switches shown above. For the G4/8x16, GASM, and GATM MBM's, please refer to the **MBM's Requiring Further Dip**

Switch Configuration section of this guide for further information on configuring the dip switches on the rear right side of the MBM.

For all MBM's, use the following procedure to configure the dip switches on the rear left side of the MBM (as shown above), before installing in either the main or expansion unit.

Note: Both the BCM main and expansion units should be powered down before installing MBM's.

1. Refer to the dip switch settings you noted whilst performing the **Configuring Media Bay Modules in Telephony Resources** section of this guide.

2. Configure each MBM's dip switches accordingly (all **On** for main unit MBM's).

3. Install each MBM in the appropriate location on the main unit. Expansion unit MBM's can be installed in any expansion unit bay.

4. Power up the BCM. This can be performed by use of the on/off rocker switch at the rear of the BCM unit.

Note: It may be necessary to disconnect and reconnect the power lead whilst the power switch is in the off position, before the BCM can be powered up.

5. Power up the expansion unit. Again this can be performed by use of the on/off switch at the rear of the BCM unit.

6. Connect any wiring to the Media Bay Modules.

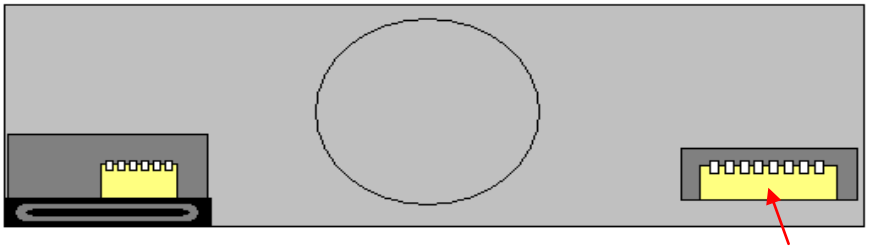
7. It may now be necessary to perform further configuration of the MBM's in Telephony Resources. Refer to the **Media Bay Module Specific Settings** section of this guide.

MBM's Requiring Further Dip Switch Configuration

The G4/8x16, GASM, and GATM modules require further configuration for regional settings.

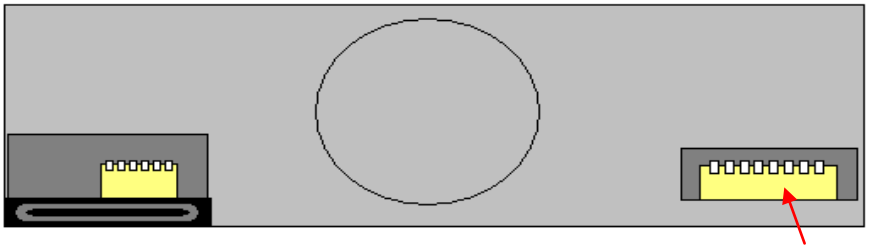
G4/8x16 & GATM MBM Regional Settings

Configure the dip switches on the rear right side of these modules to off (down). These MBM's will automatically download the correct regional settings from the BCM, dependant on the Telephony Region selected during the initialization process (refer to the **Setting the Start DN and Telephony Region** section of the ***System Start Up Guide***).



GASM MBM Regional Settings

Set the dip switches on the rear right side according to the below tables.



GASM right hand side dipswitch settings (switch 1-3)

Switch	Description	Setting
Switch 1	Determines the firmware download capability.	OFF—Standard mode (firmware downloading not supported) ON—Enhanced mode (firmware downloading supported)
Switch 2	Determines when the firmware is downloaded from the BCM450 (for enhanced mode only).	OFF—if you want the GASM to download the firmware when the firmware version in the BCM450 is different from the version in the GASM (default) ON—if you want the GASM to download the firmware whenever a cold start occurs for the BCM450
Switch 3	Enables or disables echo cancellation	OFF—Enables echo cancellation (default) ON—Disables echo cancellation

GASM right hand side dipswitch settings (switch 4–8)

Switches 4 to 8 select the region for the GASM8 as follows:					
	Switch 4	**Switch 5**	**Switch 6**	**Switch 7**	**Switch 8**
North America	OFF	OFF	OFF	OFF	OFF
United Kingdom	OFF	OFF	OFF	OFF	ON
Australia	OFF	OFF	OFF	ON	OFF
Poland	OFF	OFF	OFF	ON	ON

Additional Information

This section contains information and procedures that may not be required in all situations.

Additional MBM Configuration

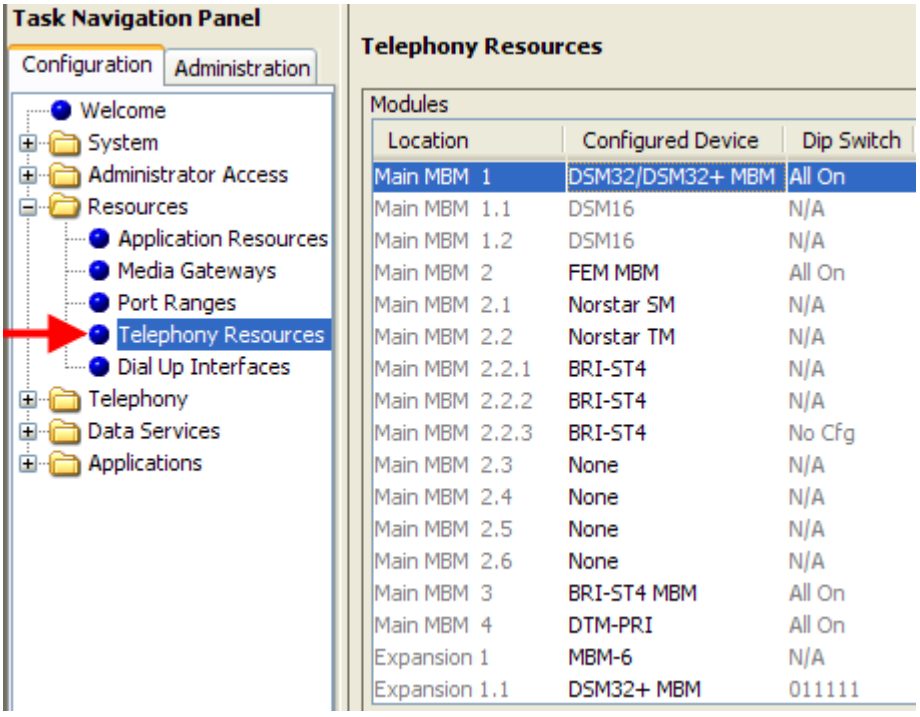
De-configuring Media Bay Modules

Should it be necessary to remove a MBM, or replace a MBM with a different type, then the MBM should be de-configured in Telephony Resources. De-configuring a MBM has the effect or erasing its programming (i.e. lines and DN numbers will be removed), allowing that resource to be left un-configured, or allowing that resource to be re-configured as another MBM.

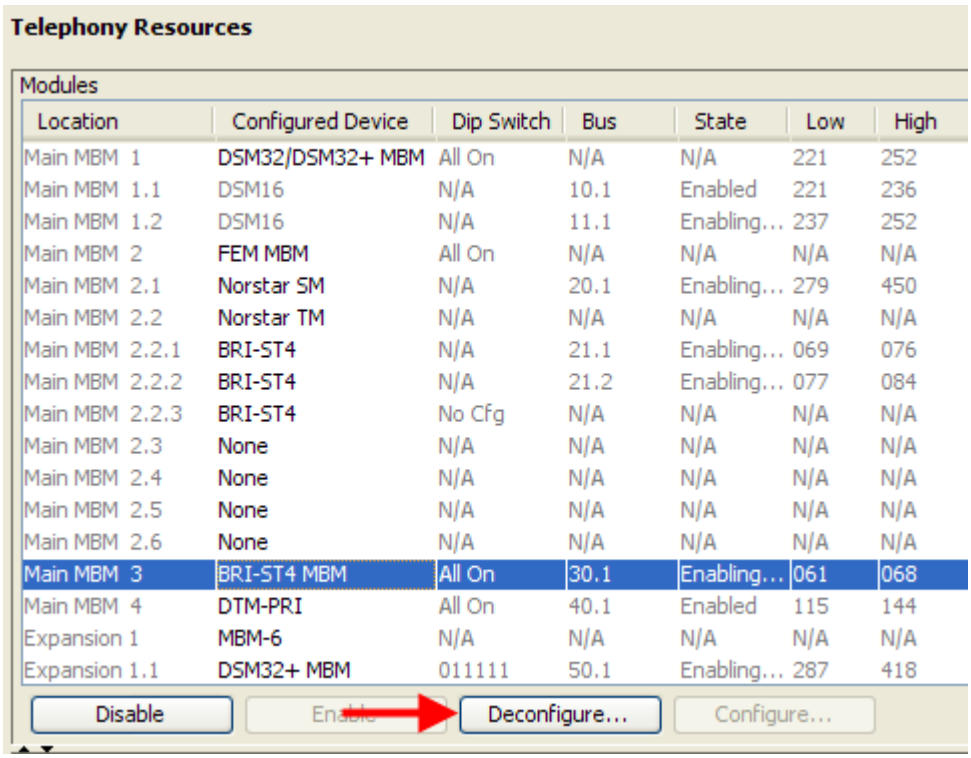
Use the following procedure to de-configure a MBM.

1. Launch Element Manager and connect to your BCM450.

2. In the **Configuration** tab, open the **Resources** folder and click on **Telephony Resources**.

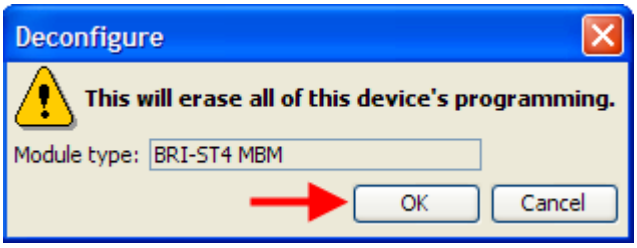


3. Select the MBM to be removed or replaced, and click on the **Deconfigure** button.

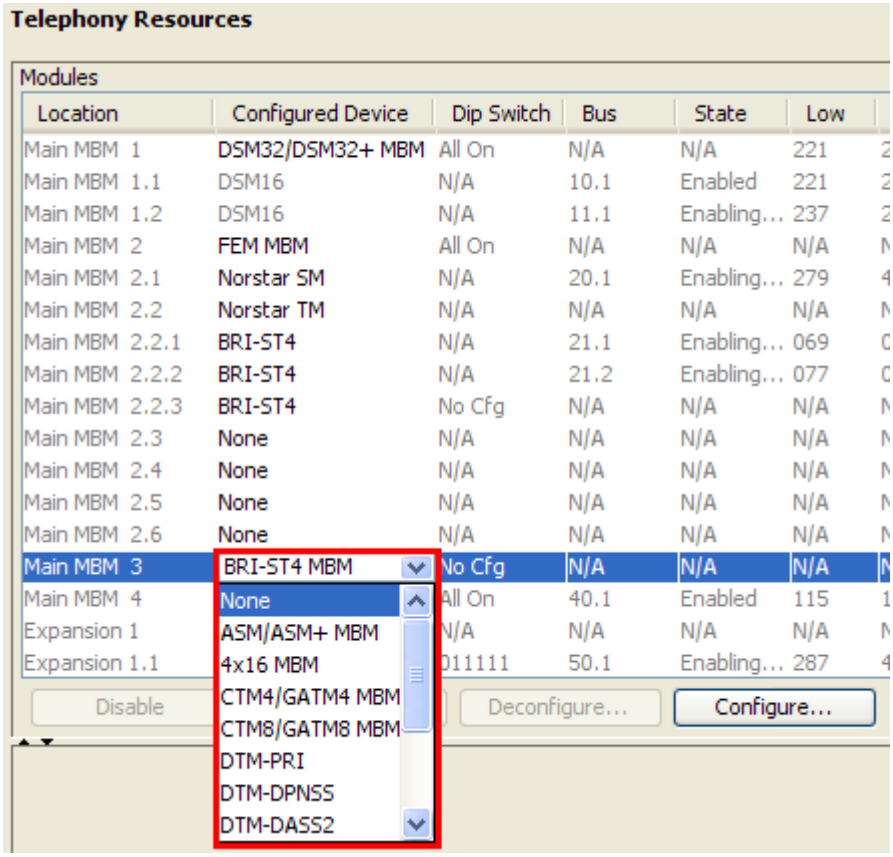


Note: Some modules require sub-modules to be selected for de-configuration. For example, to remove the FEM the Norstar SM entries would need to be de-configured, and the Norstar TM modules (MBM 2.2.1-2.2.3 in the example above) would need to be selected and de-configured individually.

4. The Deconfigure dialog box will appear. Click on the **OK** button to proceed.



5. All the configuration associated with that MBM will be removed. If you are replacing the MBM with a module of a different type, select the new MBM type from the **Configured** device column. If the MBM is not being replaced, select **None** from the **Configured Device** column.



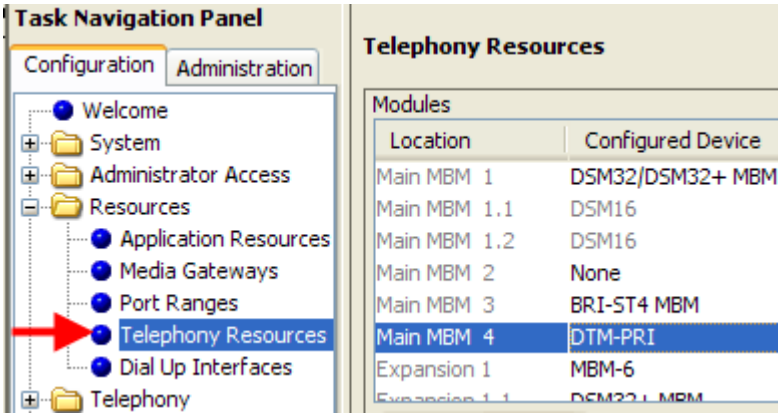
Disabling/Enabling MBM's

Element Manager allows the MBM's to be disabled and re-enabled when required. When initial configuration of the MBM has taken place (refer to the **Configuring Media Bay Module's in Telephony Resources** section of this guide) the MBM will automatically be placed in the Enabled state (or Enabling until the module and associated connections have been installed). The module can be disabled for MBM specific configuration purposes, or to take the module temporarily out of service.

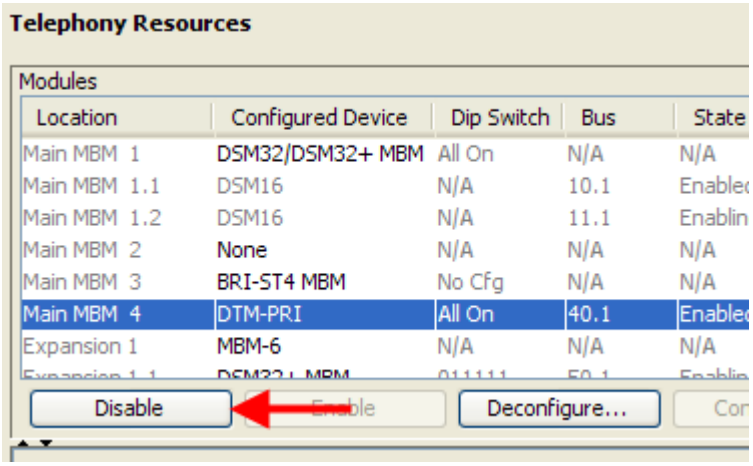
Use the following procedure to disable and re-enable a MBM.

1. Launch Element Manager and connect to your BCM450.

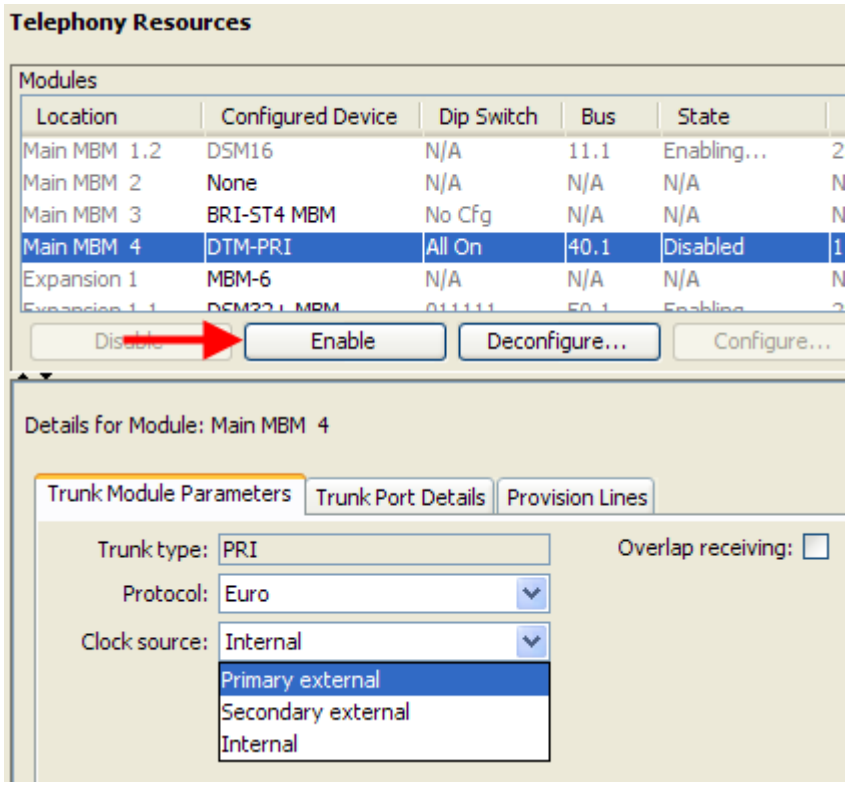
2. In the **Configuration** tab, open the **Resources** folder and click on **Telephony Resources**.



3. Select the MBM you wish to disable, and click on **Disable**.



4. The State will change to **Disabled**. Change the settings required and click on the **Enable** button to re-enable the module.



Media Bay Module Specific Settings

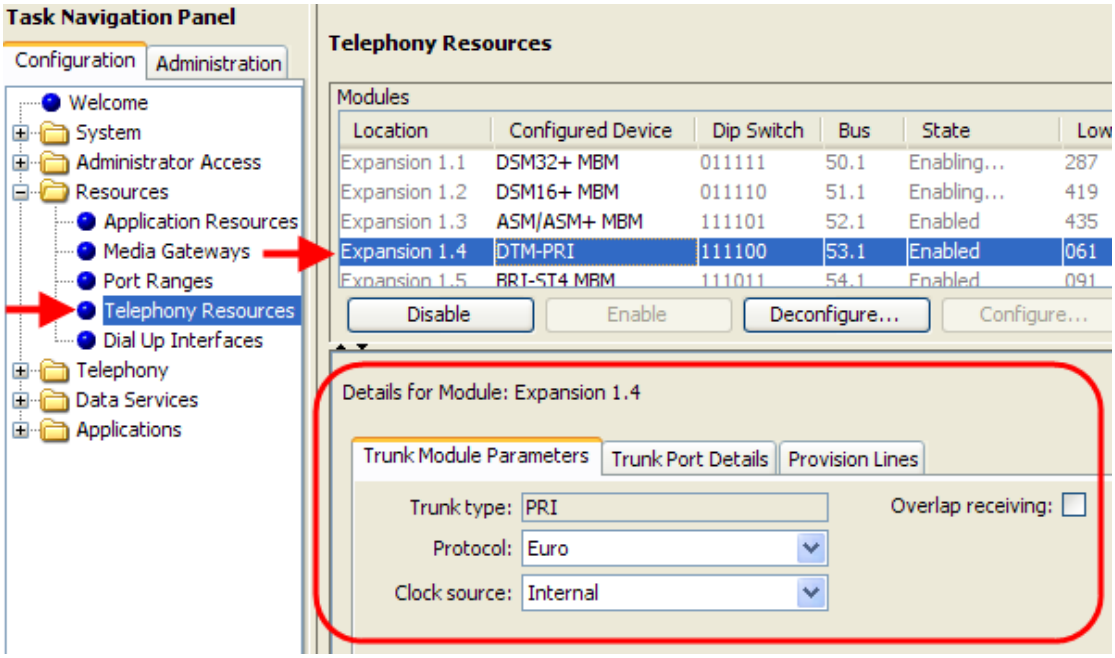
It may be necessary to change specific settings on each module, e.g. protocols or clock source for example. The following sections describe how to configure detailed settings on each Media Bay Module.

Use the following procedure to configure the MBM specific settings.

1. Launch Element Manager and connect to your BCM.

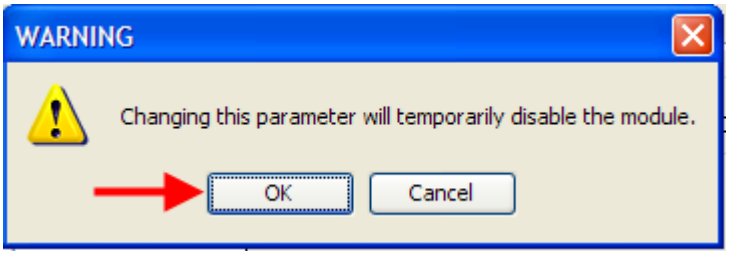
2. In the **Configuration** tab, open the **Resources** folder and click on **Telephony Resources**.

3. Select the MBM you want to further configure. The MBM specific settings can be found in the **Details for Module** section in the lower half of the screen.

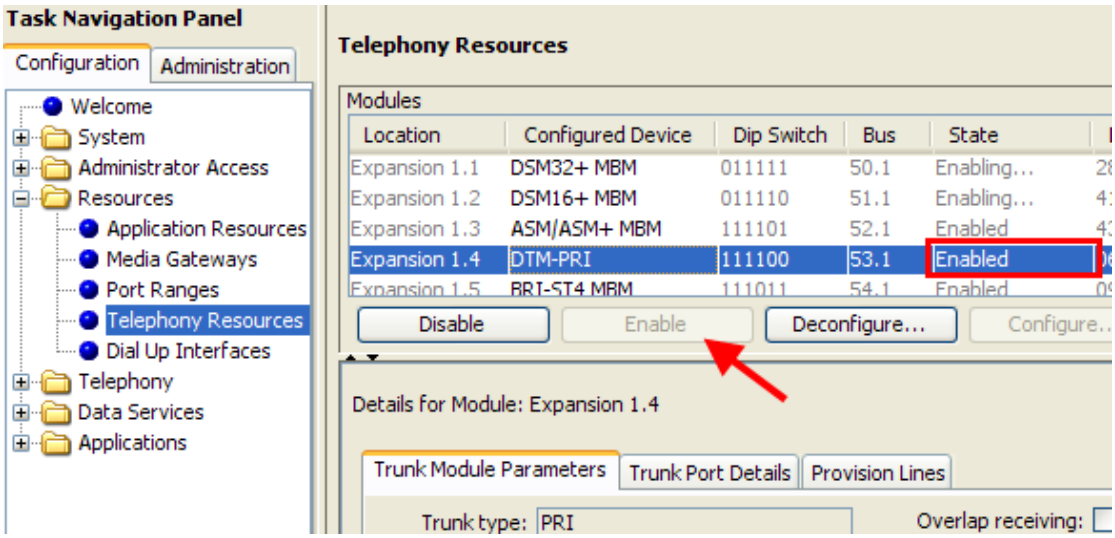


4. Use the following sections as a reference for configuring each MBM type.

5. Changes made in the **Details for Module** sections may result in the following window. Click **OK** to make the changes.



6. When you have made any changes to the MBM's, ensure they are in the **Enabled** state (the **Enable** button will be greyed out).



Note: Some settings are only available in certain regional profiles.

Trunk Media Bay Modules

Media Bay Module	Utility
DTM Digital (Trunk Media Bay Module)	Connects digital public switched telephone lines to the BCM system (PRI, DASS2, DPNSS)
ISDN BRI Module (Basic Rate Interface)	Connects a maximum of four ISDN BRI S/T interfaces.
CTM4/CTM8 (Caller ID Media Bay Module)	Connects a maximum of four (CTM4) or eight (CTM8) analog public switched telephone lines to the BCM system.
GATM4/GATM8 (Global Analogue Trunk Module)	Connects 4/8 analog public switched telephone lines to the BCM system.
ADID4/ADID8	Connects 4/8 Analog Direct Inward Dial trunks to the system

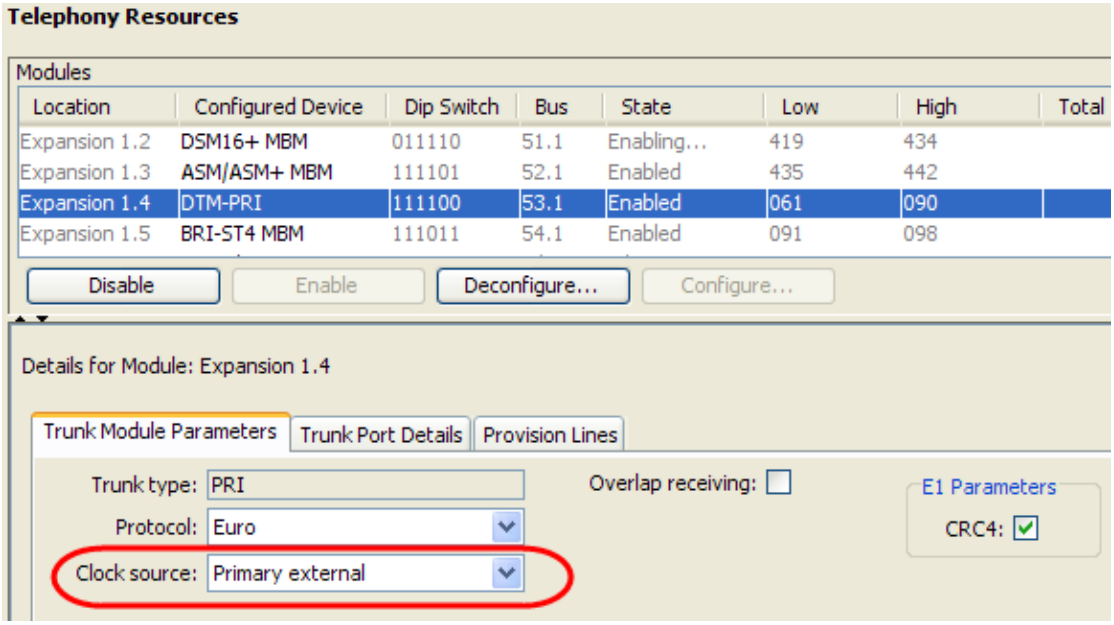
Clock Sources and Digital Trunk/BRI Modules

1. For each DTM and BRI, choose one of the following settings: **Primary external, Secondary external, or Internal:**

2. **Primary external**: The DTM/BRI obtains the timing from the network and the system synchronizes to it. This is the default value for the first DTM in a BCM. There should only be one defined Primary clock source on a System. **Private network**: If this system is in a private network and is intended to provide the master clock for that private network, the system must have one, and only one, Primary clock reference on a DTM or BRI. If this system is intended to act as clock master in a private network, then all clock sources should be set to Timing Master on this system.

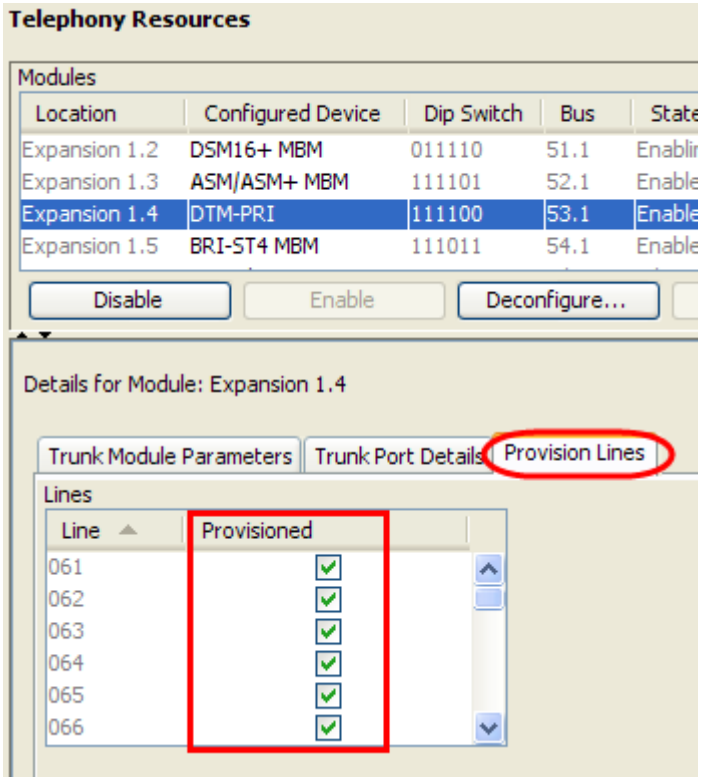
3. **Secondary external**: The DTM/BRI acts as a standby reference point. If there are excessive errors on the Primary reference link, or the DTM/BRI designated as Primary reference fails, the Secondary DTM/BRI obtains the timing from the network to be used for system synchronization. This is the default value for the second DTM in a BCM. **Private network**: If this system is in a private network and is intended to provide the Master clock for that private network, then there should be no Secondary reference defined on any DTM/BRI. Note that there should only be one defined Secondary clock source on a system.

4. **Internal**: The DTM/BRI does not obtain timing from the network, but transmits the internally-generated system timing, from the Primary/Secondary source, to equipment to which it is connected. Note that while in the absence of a DTM Primary clocking source a BRI module can be used for the primary timing reference, it is always recommended that, when possible, DTM(s) be used as primary (and secondary) clock sources and that any remaining DTMs/BRIs be set to Timing Master.

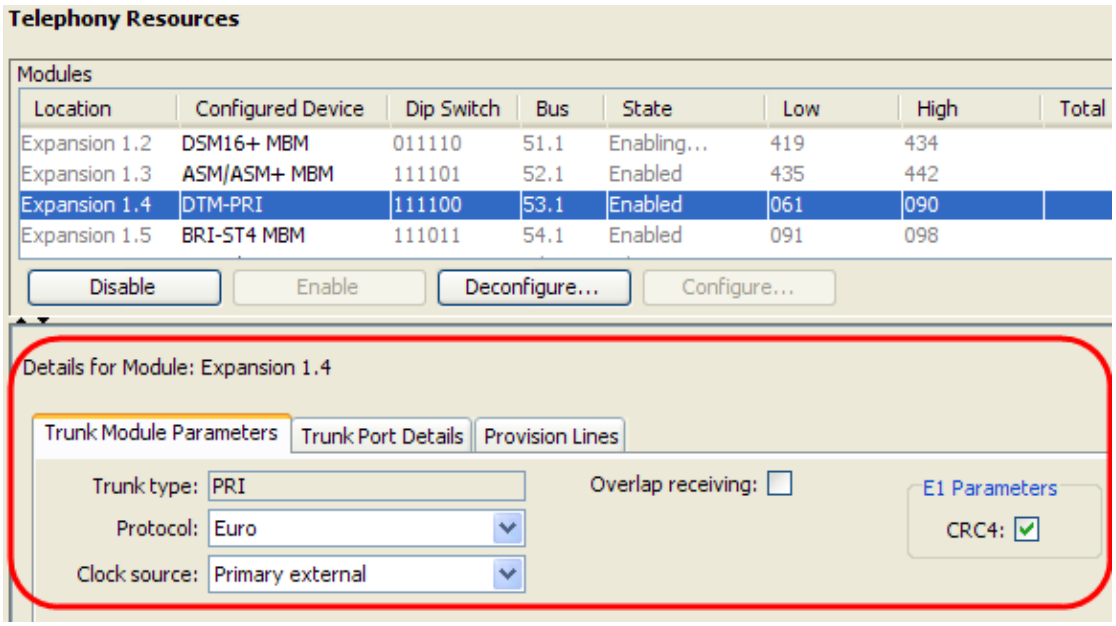


Checking Line Provisioning

1. As a general rule for Trunk modules (PRI, BRI, DASS2 etc.) you may wish to check that the lines/loops are provisioned. If the lines/loops are de-provisioned, the BCM will not have access to those lines/loops.



DTM-PRI Modules



1. In this example the system has a single PRI Digital Trunk Media Bay Module installed and the clock source has been set to Primary External to reflect this. The protocol should also be set as required. In this example Euro has been selected (other options are SL-1 and QSIG).

2. Make any changes as required.

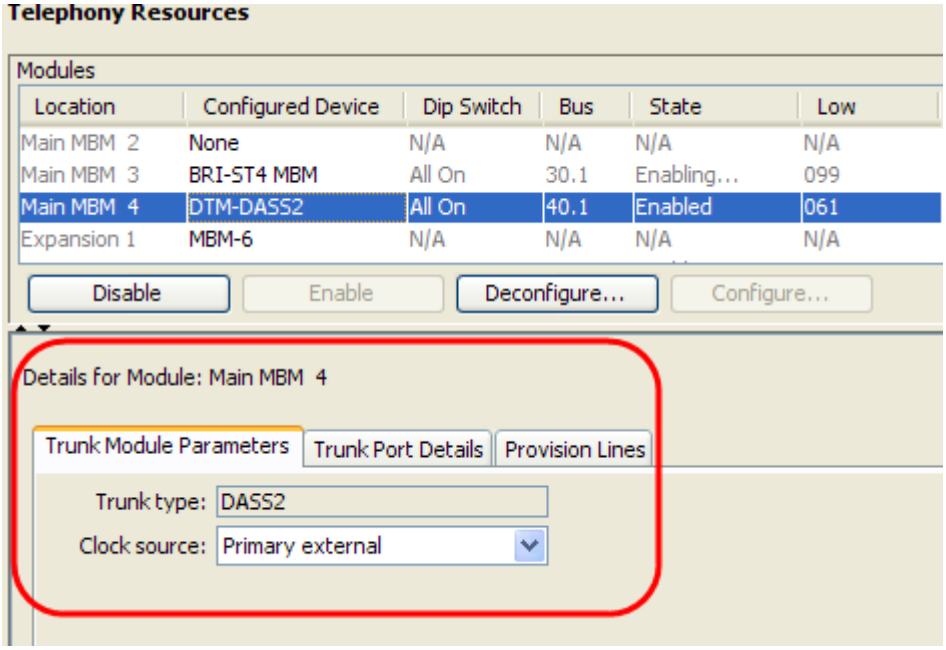
PRI Module-Specific Settings

Attribute	Value	Module/line type									
Trunk type		**All trunks**									
	Indicates the type of trunks. This field is read-only for all modules except DTM modules.										
Protocol	NI-2, DMS-100, DMS-250, AT&T4ESS, SL-1, Euro, ETSI Q.Sig					**PRI**					
	Choose the trunk protocol used by your service provider. The supported protocols are: PRI-T1: NI (NI-1 and NI-2), DMS-100, DMS-250, AT&T4ESS, SL-1 PRI-E1: ETSI QSIG, Euro, SL-1 Note: SL-1 and ETSI QSIG require an MCDN keycode to display. BRI: Protocol can also be selected on BRI T-loops under the Configuration > Resources > Telephony Resources. **Note:** Always check the line protocol with the central office.										
NSF Extension	None, WATS, ALL					**PRI**					
	The Network Specific Facilities (NSF) information element is used to request a particular service from the network. Settings are based on the type of switch to which the line connects. Suggested settings: DMS-100/250: NONE Siemens ESWD, Lucent 5ESS: WATS GTD5, DMS-10: ALL When you select NONE, the NSF extension bit is not set for any service. When you select WATS, the NSF extension bit is set for unbanded OUTWATS calls. When you select ALL, the NSF extension is always set for all CbC services. Appears only for NI protocol.										
Protocol type	User, Network					**PRI**					
	When you select SL-1 protocol, an additional setting, Protocol type, appears. SL-1 protocol is a private networking protocol. This allows you to designate a BCM node as a Network (controller). The default setting is User (client). In public network configurations, the CO is generally considered the Network side or controller. Applies to SL-1 protocol only.										
B-channel selection sequence	Ascending Sequential Descending Sequential					**PRI**					
	Defines how B-channel resources are selected for call processing.										
Answer timer	1, 2, 3, 4, or 5 sec.		**E&M**			**PRI**					
	Set the minimum duration of an answer signal before a call is considered to be answered.										
Disconnect timer	60, 100, 260, 460, or 600 milliseconds	**Loop**			**T1**						
	Specify the duration of an Open Switch Interval (OSI) before a call on a supervised external line is considered disconnected. This setting must match the setting for the line at the central office (CO). You must enable disconnect supervision by changing the Line **Trunk mode** attribute. Under the Telephony Services sub-heading, choose Lines and Line/trunk Data.										
Clock Source	Primary External Secondary External				**T1**	**PRI**	***BRI S/T**			**DASS2**	

Attribute	Value	Module/line type
	Internal	
	Designates whether the DTM/BRI acts as a primary or secondary timing component for an external timing source or as the internal timing source. **Note:** A BRI module can be programmed with primary/secondary clock source, however, it is recommended that a BRI module always be set to Internal if a DTM exists on the system to be the Primary External clock source. **Warning: Changing the clock source may disconnect calls**. If you change the clock source for your system, you may cause your system DTM interface(s) to reset, resulting in dropped calls. Choose a suitable time to change the clock source and use the Page feature to inform users of possible service disruptions.	
Send Name Display	Select or clear	**PRI** *__BRI QSIG__
	When you select this check box, the system sends a specified outgoing name display (OLI) from the calling telephone. Appears only for Protocols: SL-1, NI, DMS-100, DMS-250, or PRI QSIG.	
Remote Capability MWI	Select or clear	**PRI**
	This setting allows you to indicate MWI compatibility on the specific loop(s) that you are using to connect to the central voice mail system on a Meridian 1 which has the MWI package installed, with the RCAP setting set to MWI. Appears only for SL-1 protocol.	
Overlap receiving		**PRI** **BRI**
	Supports target lines in markets which use Overlap receiving signalling on the BRI trunks. Overlap receiving must be configured for each BRI loop. After every digit is received at the ISDN layer, Target Lines are checked for matches. If a full match is made, the call is routed immediately to the target line without waiting for additional digits.	
Local Number Length		**BRI**
	When Overlap receiving is enabled on the trunks, this number determines how many incoming digits need to match the target line numbers to be considered a call for that target line.	
Host node	M1, Embark, IDPX, DSM	**DNPSS**
	DPNSS cards connected to Embark switches have a different way of handling call diversion, therefore, when you provision a DTM for DPNSS, you must indicate what type of switch the lines are connected to. When you select the Embark switch, calls are diverted using the Call Forwarding feature instead of call diversion.	
Maximum Transits	Default: 31	**PRI**
	Indicate the maximum number of times that a call will be transferred within the SL-1 network before the call is dropped. Protocol must be set to SL-1 to display this field.	
T1 parameters		
CO fail		**T1** **PRI**
	Specify a carrier failure standard (T1A-5474, TR62411)	
Interface levels	ISDN, PSTN	**T1** **PRI**
	Define a loss plan setting.	
Framing	ESF, SF	**T1** **PRI**
	Select the framing format used by your T1 or PRI service provider: Extended Superframe (ESF) or Superframe (SF). Contact your T1 or PRI service provider for the proper setting. (SF or Superframe is sometimes known as D4.)	
Line coding	B8ZS, AMI	**T1** **PRI**
	Define the encoding signals on a T1 line. Select the standard used by your T1 service provider. Contact your T1 service provider for the proper setting.	
Internal CSU	<check box>	**T1** **PRI**
	Turn the internal T1 channel service unit (CSU) on or off.	
CSU line build	0, 7.5, or 15 dB	**T1** **PRI**
	Set the gain level of the transmitted signal. This setting appears only when the Internal CSU is Enabled.	
DSX1 build	000-100, 100-200, 200-300, 300-400, 400-500, 500-600, or	**T1** **PRI**

Attribute	Value	Module/line type
	600-700 feet	
	Set the distance between BCM and an external channel service unit. This setting only appears when the Internal CSU is Disabled. Contact your service provider for the proper settings.	
CRC4	<check box>	**E1 PRI**
	Ensure this is enabled or disabled to match the service provider Cyclic Redundancy Check (CRC4) setting for the trunk.	

DASS2 Modules

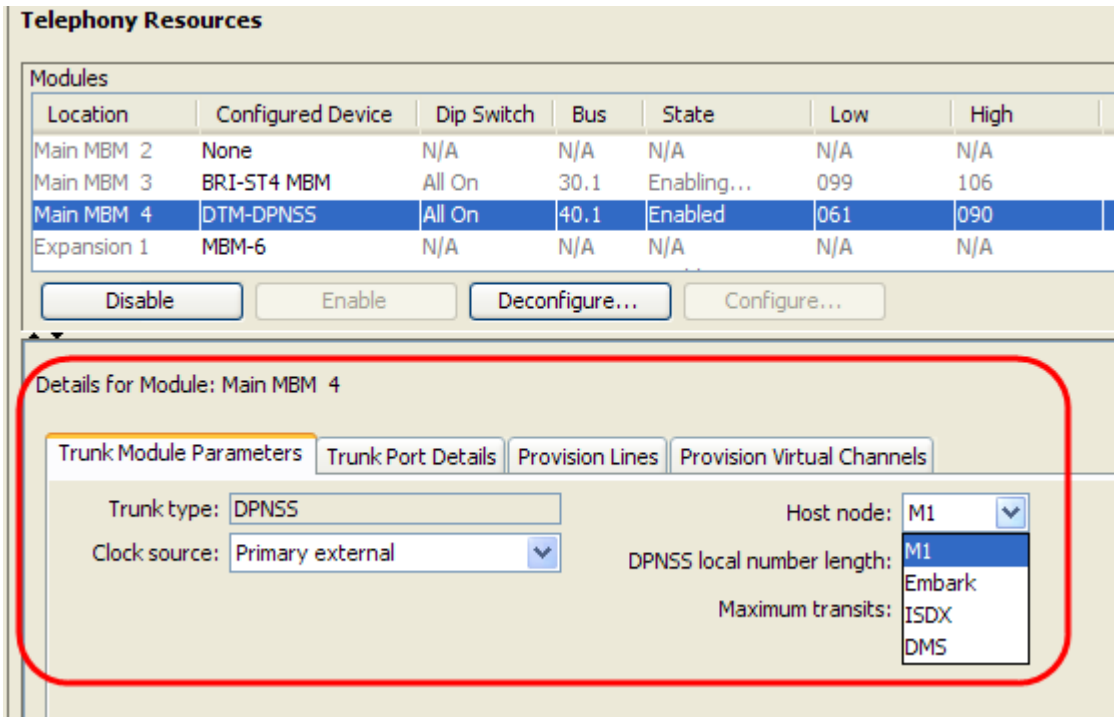


1. Configure the options as required.

DASS2 Module-Specific Settings

Attribute	Value	Module / Line Type
Clock Source	Primary External Secondary External Internal	* * **DASS2**
	Designates whether the DTM/BRI acts as a primary or secondary timing component for an external timing source or as the internal timing source. **Note:** A BRI module can be programmed with primary/secondary clock source, however, it is recommended that a BRI module always be set to Internal if a DTM exists on the system to be the Primary External clock source. **Warning: Changing the clock source may disconnect calls**. If you change the clock source for your system, you may cause your system DTM interface(s) to reset, resulting in dropped calls. Choose a suitable time to change the clock source and use the Page feature to inform users of possible service disruptions.	

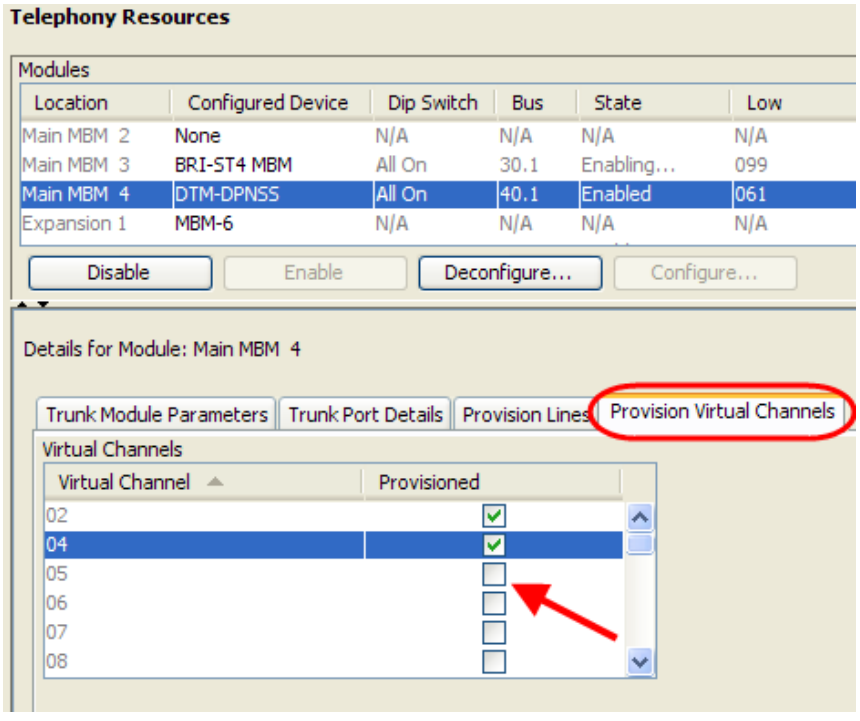
DPNSS Modules



1. With DTM-DPNSS modules there are **Host Node** options reflecting the possible DPNSS devices the BCM could be connected to. Select the node that the BCM is connected to.

2. Configure the other options as required.

3. Check that the Virtual Channels are provisioned in addition to the standard lines. Click on the **Provision Virtual Channels** tab to do this.

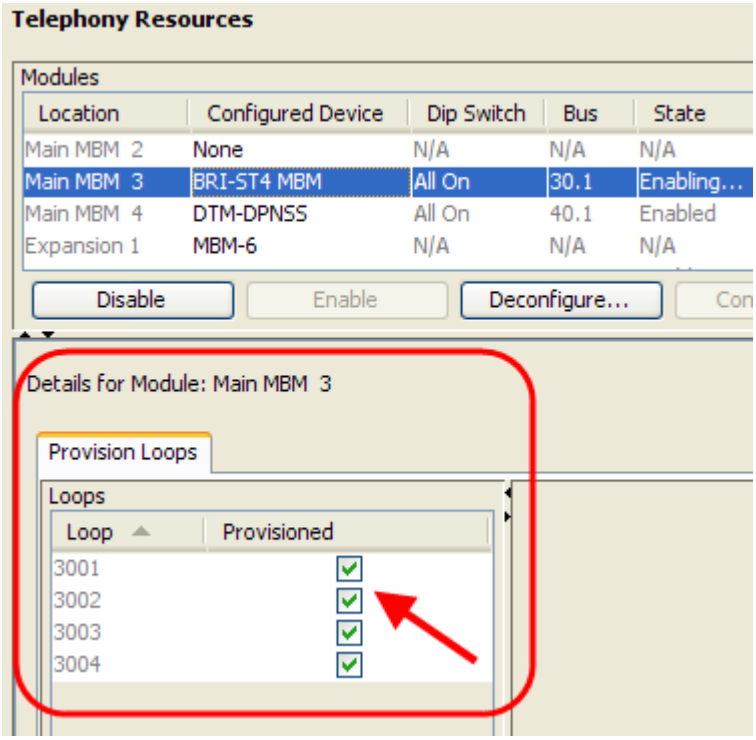


DPNSS Module-Specific Settings

Attribute	Value	Description
Clock Source	Primary Secondary Timing Master	Designates whether the DTM/BRI acts as a primary or secondary timing component for an external timing source or as the internal timing source. Note: A BRI module can be programmed with primary/secondary clock source, however, it is recommended that a BRI module always be set to Internal if a DTM exists on the system to be the Primary External clock source.
Host node	M1 Embark IDPX DSM	DPNSS cards connected to Embark switches have a different way of handling call diversion, therefore, when you provision a DTM for DPNSS, you must indicate what type of switch the lines are connected to. When you select the Embark switch, calls are diverted using the Call Forwarding feature instead of call diversion.
DPNSS Local Number Length	1-10	This number allows the system to determine how many digits to read on an incoming call to determine that the call is meant for this system.

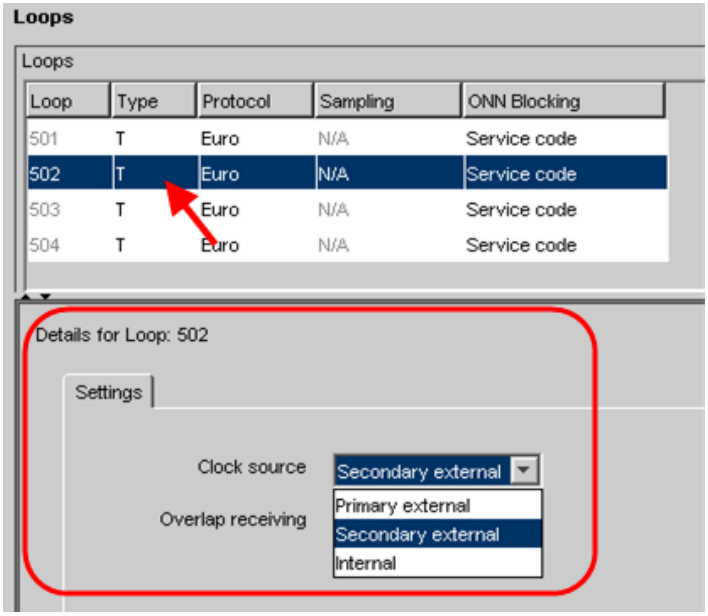
BRI Module

1. There are no module-specific settings for BRI modules. However, check that the loops are provisioned.



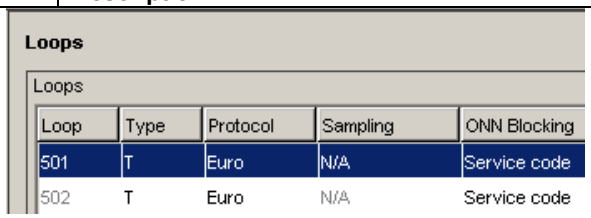
Use the following procedure to configure the **BRI loop type, i.e. S or T** and also the **Clock Source** settings for the BRI loops.

1. Open **Telephony**, then **Loops**.
2. Select the **Loop** to configure.
3. Select the **Loop Type** from the option box provided.

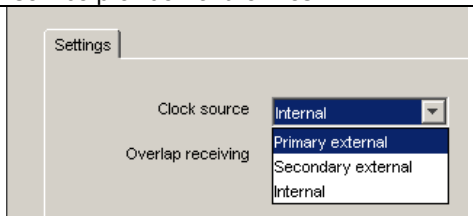


4. Configure the loops and clock source accordingly.

Loop Settings

Attribute	Value	Description
		
Loop	<X01-X04>	Each BRI module supports four loops (eight lines for T-loop programming).
Type	T S	This setting defines whether the loop supports trunks (T-loop) or device connections (S-loop). Note: This variable may be different for different market profiles.
Protocol	Euro QSIG NI-2	Select the appropriate ISDN protocol. The values displayed depend on both the market profile and software keycodes. Euro - ETSI ISDN standard QSIG - also an ETSI standard. Only appears if the ETSI QSIG keycode is loaded. NI-2
Sampling (S-loops only)	Adaptive Fixed N/A	Select a sampling rate for the S-loop. Fixed: two or more S-interface devices use the loop, and the length of the loop is less than 200 m (650 ft.). Adaptive: two or more S-interface devices use the loop, and the length of the loop is greater than 200 m (650 ft.). If one device is using the loop, the

Attribute	Value	Description
		length of the loop can be a maximum of 1000 m (3230 ft)
ONN blocking	Suppression bit Service code N/A	Set the Outgoing Name and Number (ONN) Blocking. When you activate ONN, a user can press **FEATURE** 819 to block the outgoing name and number on a per call basis. Programming note: Ensure that all telephones that have this feature available are assigned valid OLI numbers. Refer to .
ONN blocking		Suppression bit: the system flags the call to the Central Office (CO) so that the name and number is not sent to the person you call. Service code: VSC digits are dialed out before the called number to activate ONN at the central office. These codes are supplied by your service provider for the lines.

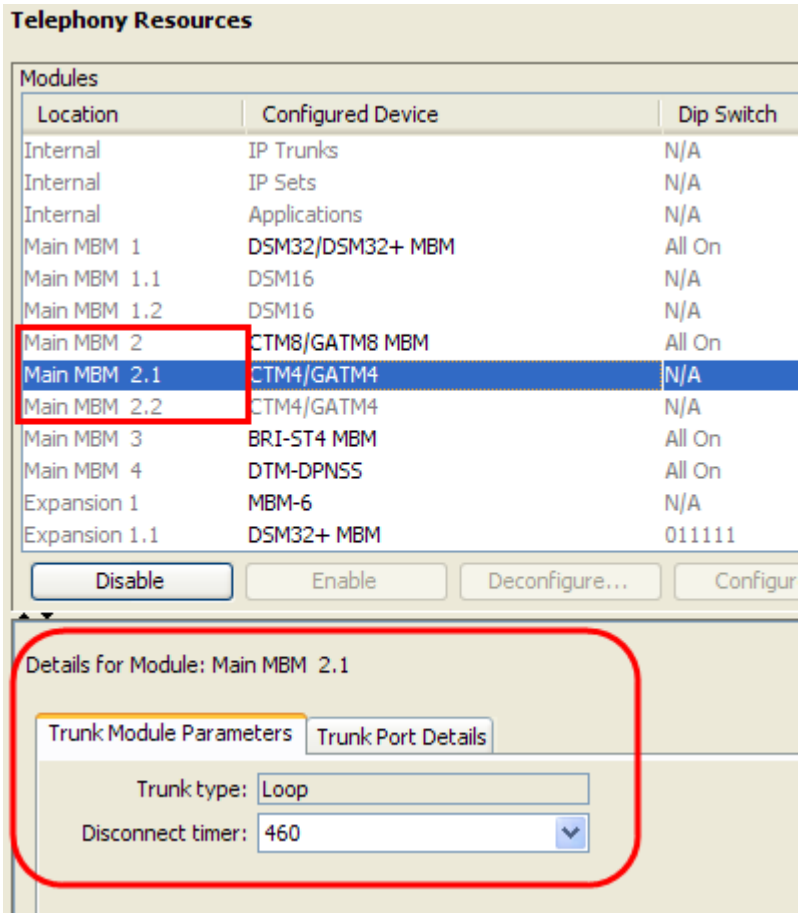


Attribute	Value	Description
Clock source	Primary External Secondary External Internal	Primary External - uses clock from PSTN Secondary External - used if system has more than one Loop Internal - uses clock on BCM
Overlap: receiving	<check box>	Supports target lines in markets which use Overlap receiving signaling on the BRI trunks. Overlap receiving must be configured for each BRI loop.
Overlap: length	0-10	Set the local number length for loops to interfaces that receive overlap rather than enbloc digits. This number is the total length of the called party number received. This number is used to calculate the number of leading digits that need to be removed by the system.
	Note: This parameter appears only when Overlap receiving is enabled. Example: Public received number = 4502303 Target line received numbers = 303 Local number length = 7 Public received number length = 3 Thus the first four digits are deleted by the system.	
Send Name Display (ETSI QSIG only)	<check box>	If the switch allows outgoing name display, select the check box.

CTM/GATM (4 and 8 port) Module

1. Configuring a CTM8/GATM8 MBM will result in 2 sub-modules appearing in Telephony Resources (Main MBM 2.1 and Main MBM 2.2 in the example below).

2. Select each sub-module to configure the specific settings.



CTM/GATM (4 and 8 port) Module-Specific Settings

Attribute	Value	Description
Disconnect Timer	60-600ms	Set as advised by the CO. Specify the duration of an Open Switch Interval (OSI) before a call on a supervised external line is considered disconnected. This setting must match the setting for the line at the central office (CO). You must enable disconnect supervision by changing the Line Trunk mode attribute.

Station Media Bay Modules Types

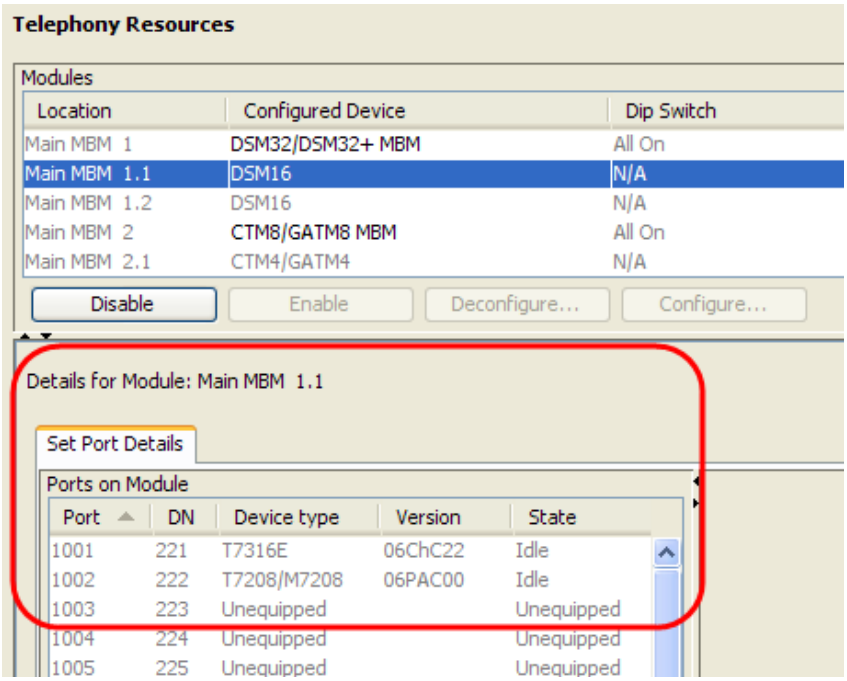
With station media bay modules (MBM) you can connect telephones and analog telecommunication devices to the BCM system.

Media Bay Module	Utility
DSM16(+)/DSM32(+) (Digital Station Module)	Connects a maximum of 16 (DSM16(+)) or 32 (DSM32(+)) digital telephones to the BCM system.
ASM4/ASM8	Connects 4/8 analog devices to the BCM system.
GASM8	Connects 4/8 analog devices to the BCM system. The GASM provides the following additional services: caller ID, pass through, message waiting indication, and disconnect supervision at the telephone. The GASM also allows you to download new firmware.

DSM 16/32(+) Modules

1. There are no module specific settings for DSM modules. However, port details can be observed. The port details will display information such as port number, DN's assigned to ports, the attached device type, firmware version and current state.

2. For DSM32(+) MBM's, select either of the 2 sub-MBM's to view the associated details.



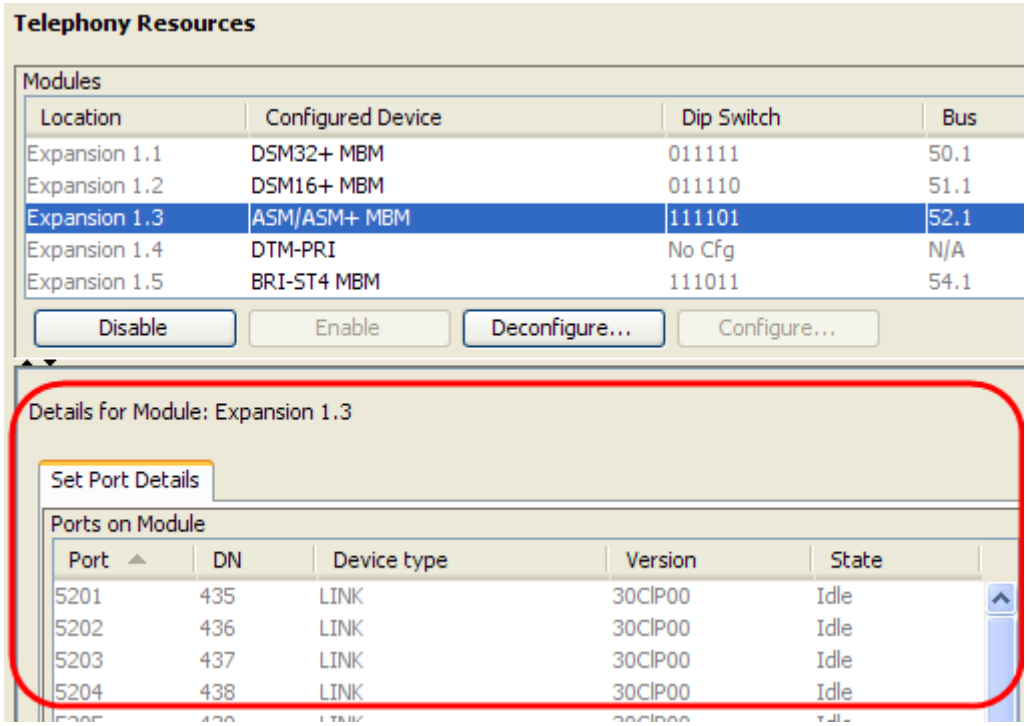
Set Port Details

Attribute	Value	Module type
Port #	• These are the port numbers of the physical device.	
DN	XXXX	The DN number associated with the port.
Device type	Read-only	This is the type of DN.
Version	<read-only>	This field indicates the version of firmware running on the module.

Attribute	Value	Module type
Call State or State	Idle Active Deprovisioned	**All modules** This field indicates whether a module line or DN is in use or even provisioned.
Addons		**All modules**
	Indicates auxiliary items added to the telephony devices or trunks	
	Add-on	This is a list number.
	Type	This field indicates the type of add-on, such as a KIM module.
	Version	This field indicates the version of firmware running on the add-on device.

ASM Analog Station Module Configuration

1. There are no module specific settings for ASM modules. However, port details can viewed.



Set Port Details

Attribute	Value	Module type
Port #	• These are the port numbers of the physical device.	
DN	XXXX	The DN number associated with the port.
Device type	Read-only	This is the type of DN.
Version	<read-only>	This field indicates the version of firmware running on the module.
Call State or State	Idle Active Deprovisioned	**All modules** This field indicates whether a module line or DN is in use or even provisioned.
Addons		**All modules**
	Indicates auxiliary items added to the telephony devices or trunks	
	Add-on	This is a list number.
	Type	This field indicates the type of add-on, such as a KIM module.

Attribute	Value	Module type
	Version	This field indicates the version of firmware running on the add-on device.

Combination Modules

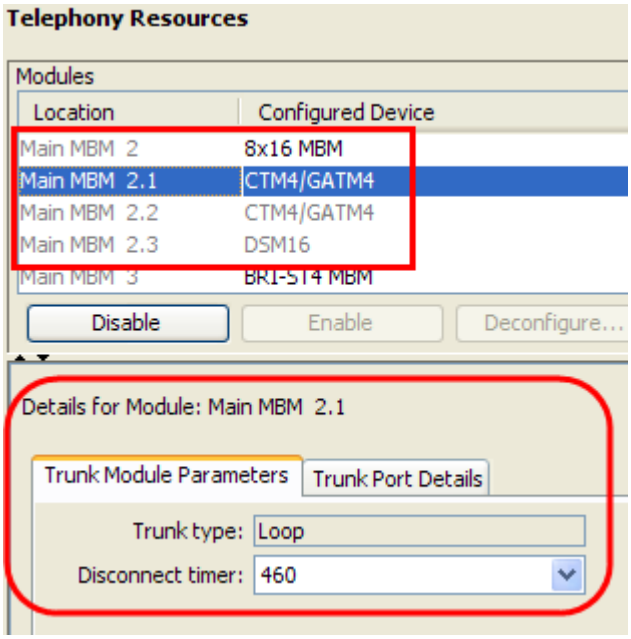
These modules provide a combination of both lines and extensions.

Media Bay Modules	Utility
4x16 Combo Combination of a CTM4 and a DSM16	Connects a maximum of four analog public switched telephone lines to the BCM system. Also connects a maximum of 16 digital telephones to the BCM system.
G4/8x16	Connects 4/8 analog trunks and up to 16 digital extensions to the BCM system.

Combination Module Configuration

1. Configuring a combo MBM will result in 2 sub-modules (for the 4x16) or 3 sub-modules (for the 8x16) appearing in Telephony Resources (Main MBM 2.1, Main MBM 2.2, and Main MBM 2.3 in the example below).

2. Select each sub-module to configure the specific settings in the case of the CTM/GATM component, or view the details in the case of the DSM16 component.



For the CTM/GATM sub-module specific settings, please refer to the **CTM/GATM (4 and 8 port) Module** section of this guide.

For the DSM16 sub-module specific settings, please refer to the **DSM 16/32(+) Modules** section of this guide.

Media Bay Modules Wiring Charts

This section is for reference purposes. Wiring for the MBM's is provided.

ASM8(+)/GASM/DSM(+) Media Bay Module Amphenol Wiring

Use the table below if connecting extensions (stations) to a DSM Media Bay Module.

Device	Pin	Connection	Wire Colour
ASM8/GASM/DSM			
1	26 1	Tip Ring	White-Blue Blue-White
2	27 2	Tip Ring	White-Orange Orange-White
3	28 3	Tip Ring	White-Green Green-White
4	29 4	Tip Ring	White-Brown Brown-White
5	30 5	Tip Ring	White-Slate Slate-White
6	31 6	Tip Ring	Red-Blue Blue-Red
7	32 7	Tip Ring	Red-Orange Orange-Red
8	33 8	Tip Ring	Red-Green Green-Red
DSM Only			
9	34 9	Tip Ring	Red-Brown Brown-Red
10	35 10	Tip Ring	Red-Slate Slate-Red
11	36 11	Tip Ring	Black-Blue Blue-Black
12	37 12	Tip Ring	Black-Orange Orange-Black
13	38 13	Tip Ring	Black-Green Green-Black
14	39 14	Tip Ring	Black-Brown Brown-Black
15	40 15	Tip Ring	Black-Slate Slate-Black
16	41 16	Tip Ring	Yellow-Blue Blue-Yellow
17 - 25	No Connection		

Note: The ASM8/8+ and GASM MBM's support 8 analog stations.

ADID4/8 Media Bay Module Amphenol Wiring

Use the table below if connecting analog trunks to an Analog Direct Inward Dial MBM.

Device	Pin	Connection	Wire Colour
ADID4 & ADID8			
1	26 1	Tip Ring	White-Blue Blue-White
2	27 2	Tip Ring	White-Orange Orange-White
3	28 3	Tip Ring	White-Green Green-White
4	29 4	Tip Ring	White-Brown Brown-White
ADID8 Only			
5	30 5	Tip Ring	White-Slate Slate-White
6	31 6	Tip Ring	Red-Blue Blue-Red
7	32 7	Tip Ring	Red-Orange Orange-Red
8	33 8	Tip Ring	Red-Green Green-Red

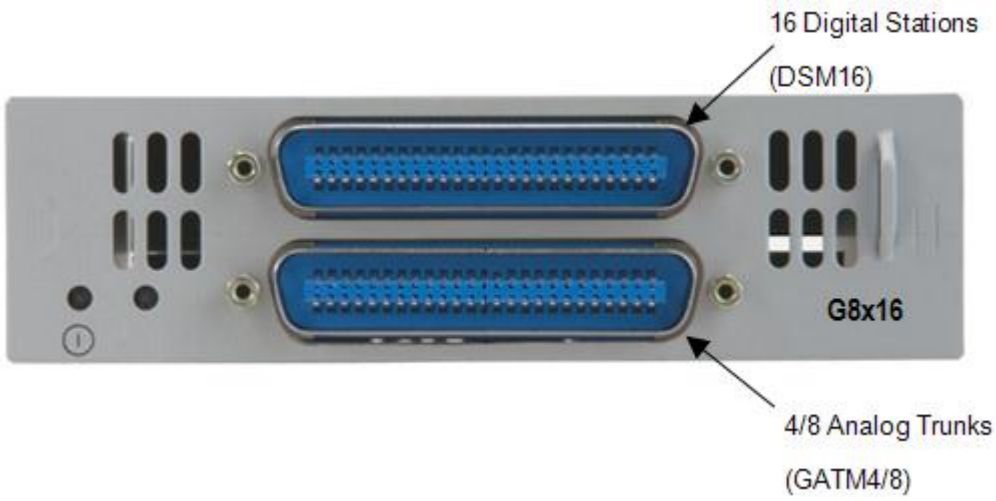
GATM4/8 Media Bay Module Amphenol Wiring

Use the table below if connecting analog trunks to a GATM4 or GATM8 Media Bay Module. It is also possible to connect a power fail extension to the last pair on the amphenol wiring.

Device	Pin	Connection	Wire Colour
GATM4 & GATM8			
1	26 1	Tip Ring	White-Blue Blue-White
2	27 2	Tip Ring	White-Orange Orange-White
3 – 4	No Connection		
5	30 5	Tip Ring	White-Slate Slate-White
6	31 6	Tip Ring	Red-Blue Blue-Red
GATM8 Only			
7 – 8	No Connection		
9	34 9	Tip Ring	Red-Brown Brown-Red
10	35 10	Tip Ring	Red-Slate Slate-Red
11 - 12	No Connection		
13	38 13	Tip Ring	Black-Green Green-Black
14	39 14	Tip Ring	Black-Brown Brown-Black
15 - 24	No Connection		
25	50 25	Tip Ring	Violet-Slate Slate-Violet Can be used to connect a power fail analog set. If system power fails the set will use line 1.

G4/8x16 Media Bay Module Amphenol Wiring

The G4/8x16 MBM's is a combination of the GATM4/8 and DSM16(+) Media Bay Modules.

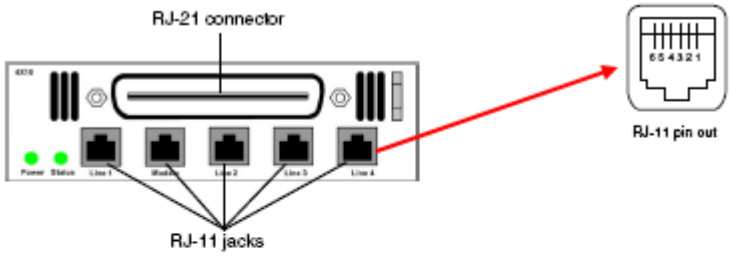


For the Analog Trunk wiring, refer to the **GATM4/8 Media Bay Module Amphenol Wiring** section of this guide.

For the Digital Station wiring, refer to the **ASM/GASM/DSM Media Bay Module Ampenol Wiring** section of this guide, consulting the DSM32 High column(s).

4x16 Media Bay Module Wiring

The 4x16 MBM has RJ-11 ports for connecting Analog Trunks, and an amphenol connection for connecting the Digital Stations. The RJ-11 pin outs are as below.



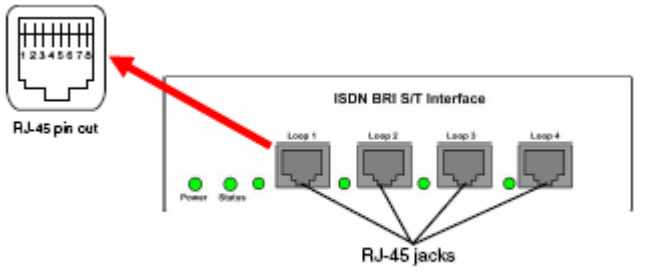
Pin	Signal
1	No connection
2	No connection
3	Ring
4	Tip
5	No connection
6	No connection

There are 4 line ports for analog trunks, and an auxiliary port next to Line port 1 designated for an emergency (power fail) phone.

For the Digital Station wiring, refer to the **ASM/GASM/DSM Media Bay Module Ampenol Wiring** section of this guide, consulting the DSM32 High column(s).

BRI Ports

The BRI Port Wiring chart below relates to the BRI Media Bay Modules.

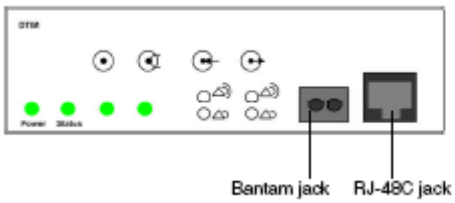


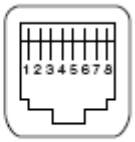
BRI Port Wiring

Pin	Signal	Signal on system side
1	No connection	No connection
2	No connection	No connection
3	+ Receive (+Rx)	+Tx
4	+ Transmit (+Tx)	+Rx
5	- Transmit (-Tx)	-Rx
6	- Receive (-Rx)	-Tx
7	No connection	No connection
8	No connection	No connection

DTM Ports

The digital trunks are connected to the DTM via the RJ-48C jack.





RJ-48C pin out

The pin outs are detailed below.

Pin	Signal
1	Receive Ring
2	Receive Tip
3	Receive Shield
4	Transmit Ring
5	Transmit Tip
6	Transmit Shield
7	No connection
8	No connection

Avaya Documentation Links

- Installation – System
- Installation – Devices
- Configuration – System
- Configuration – Telephony